00097506

BOMBAY BRANCH
OF THE
ROYAL ASIATIC SOCIETY.
TOWN HALL, BOMBAY.

Digitized with financial assistance from
Hermès India
a project facilitated by the Rotary Club of Bombay
on 10 August, 2018

The Badminton Library

OF

SPORTS AND PASTIMES

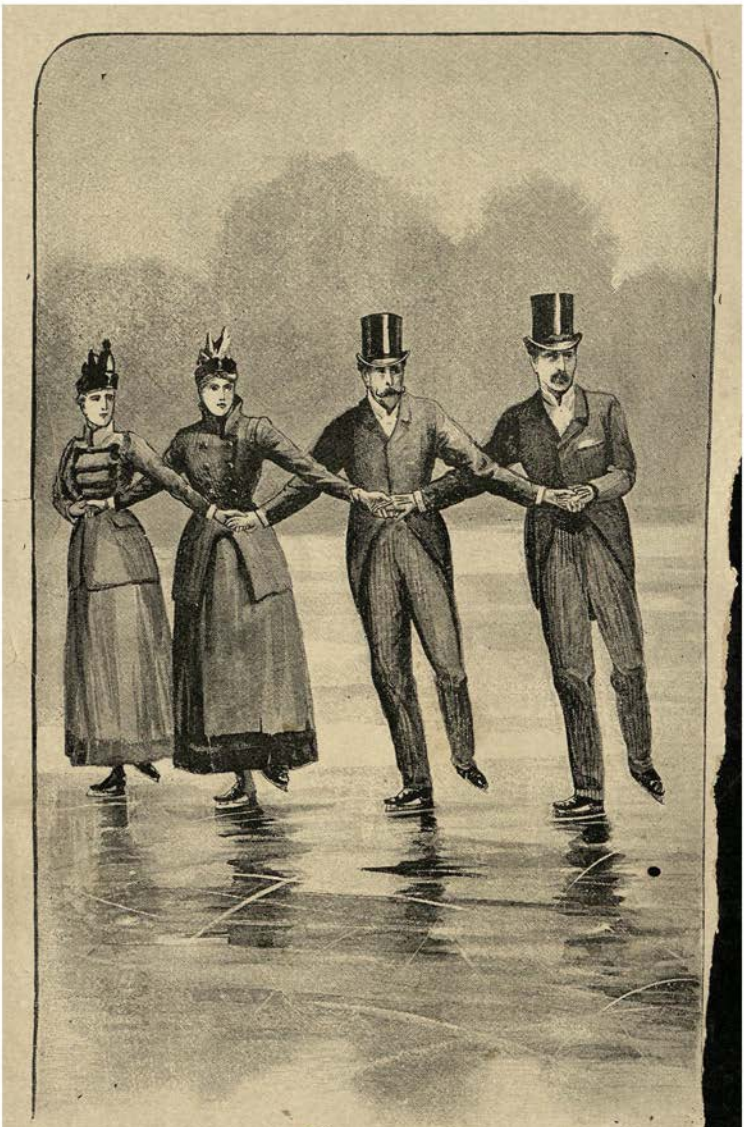
EDITED BY

HIS GRACE THE DUKE OF BEAUFORT, K.G.

ASSISTED BY ALFRED E. T. WATSON

SKATING

PRINTED BY
SPOTTISWOODE AND CO., NEW-STREET SQUARE
LONDON



A Forward Rocker

SKATING

BY

J. M. HEATHCOTE AND C. G. TEBBUTT

FIGURE-SKATING

BY

T. MAXWELL WITHAM

WITH CONTRIBUTIONS ON

CURLING (Rev John Kerr), TOBOGGANING (Ormond Hake)
ICE-SAILING (Henry A. Buck), BANDY (C. G. Tebbutt)

C7506

ILLUSTRATED BY
CHARLES WHYMPER AND CAPTAIN R. M. ALEXANDER
AND FROM PHOTOGRAPHS

NN-C-54

LONDON
LONGMANS, GREEN, AND CO.
1892

All rights reserved

Gnd 796.91
Hea/Ska
97506

00097506

DEDICATION

TO

H.R.H. THE PRINCE OF WALES

BADMINTON : *May* 1885.

HAVING received permission to dedicate these volumes, the BADMINTON LIBRARY of SPORTS and PASTIMES, to HIS ROYAL HIGHNESS THE PRINCE OF WALES, I do so feeling that I am dedicating them to one of the best and keenest sportsmen of our time. I can say, from personal observation, that there is no man who can extricate himself from a bustling and pushing crowd of horsemen, when a fox breaks covert, more dexterously and quickly than His Royal Highness; and that when hounds run hard over a big country, no man can take a line of his own and live with them better. Also, when the wind has been blowing hard, often have I seen His Royal Highness knocking over driven grouse and partridges and high-rocketing pheasants in first-rate

workmanlike style. He is held to be a good yachtsman, and as Commodore of the Royal Yacht Squadron is looked up to by those who love that pleasant and exhilarating pastime. His encouragement of racing is well known, and his attendance at the University, Public School, and other important Matches testifies to his being, like most English gentlemen, fond of all manly sports. I consider it a great privilege to be allowed to dedicate these volumes to so eminent a sportsman as His Royal Highness the Prince of Wales, and I do so with sincere feelings of respect and esteem and loyal devotion.

BEAUFORT.

BADMINTON

PREFACE

A FEW LINES only are necessary to explain the object with which these volumes are put forth. There is no modern encyclopædia to which the inexperienced man, who seeks guidance in the practice of the various British Sports and Pastimes, can turn for information. Some books there are on Hunting, some on Racing, some on Lawn Tennis, some on Fishing, and so on; but one Library, or succession of volumes, which treats of the Sports and Pastimes indulged in by Englishmen—and women—is wanting. The Badminton Library is offered to supply the want. Of the imperfections which must be found in the execution of such a design we are

conscious. Experts often differ. But this we may say, that those who are seeking for knowledge on any of the subjects dealt with will find the results of many years' experience written by men who are in every case adepts at the Sport or Pastime of which they write. It is to point the way to success to those who are ignorant of the sciences they aspire to master, and who have no friend to help or coach them, that these volumes are written.

To those who have worked hard to place simply and clearly before the reader that which he will find within, the best thanks of the Editor are due. That it has been no slight labour to supervise all that has been written he must acknowledge; but it has been a labour of love, and very much lightened by the courtesy of the Publisher, by the unflinching, indefatigable assistance of the Sub-Editor, and by the intelligent and able arrangement of each subject by the various writers, who are so thoroughly masters of the subjects of which they treat. The reward we all hope to reap is that our work may prove useful to this and future generations.

THE EDITOR.

CONTENTS

PAGE

SKATING.—INTRODUCTION 1
J. M. Heathcote.

CHAP.

I. THE ORIGIN AND DEVELOPMENT OF SKATING 3
J. M. Heathcote.

II. FIRST PRINCIPLES OF SKATING, AND SUGGESTIONS TO BEGINNERS 19
J. M. Heathcote.

III. FIGURE-SKATING 41
T. Maxwell Witham.

IV. SKATING AS A RECREATION 198
J. M. Heathcote.

V. HOLLAND 221
C. G. Tebbutt.

VI. EARLY RACING, AND SOME RECORDS OF THE NATIONAL SKATING ASSOCIATION . . . 247
J. M. Heathcote.

VII. MODERN RACING 265
C. G. Tebbutt.

VIII. TRAINING 293
C. G. Tebbutt.

IX. STYLE IN SKATING 303
C. G. Tebbutt.

PAGE

CURLING 325
Rev. John Kerr.

TOBOGANNING 385
Ormond Hake.

ICE-SAILING 407
Henry A. Buck.

BANDY 429
C. G. Tebbutt.

INDEX 443

ILLUSTRATIONS

REPRODUCED BY J. D. COOPER, MESSRS. WALKER & BOUTALL, AND G. H. FORD.

FULL-PAGE ILLUSTRATIONS

	ARTIST	
A FORWARD ROCKER . .	*C. Whymper* . .	*Frontispiece*
A RACE ON WHITTLESEA MERE IN 1835	*From a Sketch by J. M. Heathcote* . .	*To face p.* 18
A CLUB FIGURE: 'ONCE BACK AND FORWARD' . . .	*C. Whymper* . . .	,, 42
A CLUB FIGURE: 'FORWARD THREE'	*C. Whymper* . .	,, 138
JAMES SMART	*C. Whymper* . .	,, 266
JOSEPH F. DONOGHUE AND ALEXANDER VON PANSCHIN —In the Two-mile International Race at Amsterdam, January 10, 1889 . . .	*A Sketch made at the time by C. Whymper*	,, 282
MR. JOSEPH F. DONOGHUE—Position No. 1, front view .	*From an instantaneous photograph by Messrs. Scott & Wilkinson* .	,, 308
A THREATENING STORM, OR A DAY FOR THE BESOM .	*R. M. Alexander* .	,, 328
THE WINNING SHOT: ATTITUDES OF VICTORS AND VANQUISHED . . .	*R. M. Alexander* .	,, 376
TOBOGANNING AT MONTREAL .	*From a photograph by Messrs. Norman & Sons, Montreal* .	,, 388
THE START — Race between Poughkeepsie Ice-Yacht Club and Hudson River Club at Poughkeepsie, February 1887	*From a photograph* .	,, 420
DRIBBLING AT BANDY . .	*From a photograph by G. Mitchell* . .	,, 438

ILLUSTRATIONS IN TEXT

	ARTIST	PAGE
FAIR ON THE THAMES	*C. Whymper*	3
BONE 'RUNNERS' EXHIBITED AT GUILDHALL	*C. Whymper*	5
ON THE RINK	*C. Whymper*	13
ENGLISH SKATES		23
A FRIESLAND SKATE		25
ELEMENTARY EDUCATION	*C. Whymper*	29
IMMERSION AND RESCUE	*C. Whymper*	37
SNOW-CLEARING APPLIANCES		47
DITTO		48
SKATE FASTENINGS		59
DITTO		60
THE DOWLER BLADE		64
FORWARD INSIDE EDGE	*C. Whymper*	68
BACK INSIDE EDGE	*C. Whymper*	70
FORWARD OUTSIDE EDGE	*C. Whymper*	75
BACK OUTSIDE EDGE	*C. Whymper*	78
A FORWARD THREE	*C. Whymper*	85
INSIDE BACK THREE	*C. Whymper*	92
FORWARD ROCKER	*C. Whymper*	185
ST. IVES	*C. Whymper*	198
SKATING IN A BLIZZARD	*C. Whymper*	209
SAILING ON SKATES—WIND RIGHT AFT	*C. Whymper*	214
SAILING ON SKATES—CLOSE-HAULED	*C. Whymper*	215
WILD-FOWL SHOOTING ON WHITTLESEA MERE	*C. Whymper, from a sketch by J. M. Heathcote*	217
DUTCH SOLDIERS RETURNING FROM DRILL	*C. Whymper*	219
A WAYSIDE DRINKING-STALL	*C. Whymper*	221
DUTCHMEN SKATING WITH POLE	*C. Whymper*	227
DUTCH RACEGROUND	*C. Whymper*	231

	ARTIST	PAGE
ZUIDER ZEE	*C. Whymper*	238
SLEIGH-SAILING	*C. Whymper*	242
'IJSLEETE'	*C. Whymper*	245
SLEIGH-DRIVING		246
A RACE FOR THE CHAMPIONSHIP—LINGAY FEN	*C. Whymper*	259
PLAN OF RACECOURSE AT HEERENVEEN		289
NORWEGIAN, ENGLISH FEN, AND FRIESLAND SKATES		309
DIAGRAM OF SKATE STROKES, ETC. (showing Dutch, English, and Modern Racing Style)		309
MODERN RACING STYLE (about $\frac{1}{40}$ actual size)	*Instantaneous series taken of Mr. J. F. Donoghue by Messrs. Loman & Co., Amsterdam*	312, 313
ENGLISH FEN STYLE ($\frac{1}{25}$ actual size)	*Instantaneous series taken of Mr. C. G. Tebbutt, by G. Mitchell*	314, 315, 318, 319
K. PANDER	*From an instantaneous photograph by Messrs. Loman & Co., Amsterdam*	320
'ICE-STICK'		329
DRUMMOND OF CARLOWRIE'S COAT-OF-ARMS		331
ANCIENT CURLING-STONES	*From Kerr on Curling, by permission of Mr. Douglas*	333
OLD CURLING-STONE		334
CURLING-STONES		343
CURLING-STONE HANDLES		347
CURLING APPLIANCES	*C. Whymper*	347
TEE-RINGER	*From Kerr on Curling, by permission of Mr. Douglas*	348
DIAGRAM TO BE DRAWN ON THE ICE PREVIOUS TO PLAYING		351, 352
PLAN OF THE RINK		354

	ARTIST	PAGE
POSITION		359
DITTO		360
A KEEN CURLER	*R. M. Alexander*	361
POSITION		362
DITTO		364
DIAGRAM OF 'OUT-TURN' AND 'IN-TURN'		365
'ELBOW IN'		366
'ELBOW OUT'		367
'D'YE SEE THAT STANE? THEN CRACK AN EGG ON'T'	*R. M. Alexander*	369
THE ECCENTRICITIES OF ATTITUDE	*R. M. Alexander*	372
FITTING THE TEE	*R. M. Alexander*	374
'I THINK THAT SHOULD FIND HER!'	*R. M. Alexander*	377
THE ASCENT OF BUOL RUN	*Adapted from a photograph by Mrs. Main*	385
CANADIAN 'TOBOGGAN'		389
TOBOGANNING	*From a photograph, by permission of Messrs. Norman & Sons, Montreal*	390
'SCHLITTLI' OR SWISS 'COASTER'[1]		391
A TAILING PARTY	*From a photograph by Wm. Gardner-Waterman*	393
'SCHLITTLI' OR SWISS 'COASTER'		394
THE BUOL RUN, DAVOS	*From a photograph*	395
THE CRESTA RUN, ST. MORITZ	*From a photograph*	367
'AMERICA' TOBOGGAN RIDDEN HEADFOREMOST		399
'BOB-SLED'		399
'AMERICA' TOBOGGAN (Winner of the 'Grand National,' 1888)		401
THE 'ICICLE'	*From a photograph*	409
'AVALANCHE,' A TYPICAL MODERN RACING ICE-YACHT	*From a photograph*	411
'VIXEN,' H.R.I.Y.C., RACING EXPRESS TRAIN	*From a photograph*	417
THE 'AVALANCHE'	*From a photograph*	419

[1] The various types of toboggans are from drawings by C. Digby Jones, by permission of the proprietor of the 'St. Moritz Post and Davos News.'

SKATING

INTRODUCTION

BY J. M. HEATHCOTE

ALTHOUGH figure-skating is no doubt the highest development of the art, speed-skating came first in order, and it has been thought well to begin this volume with the following chapters on that branch of the subject. Many persons capable of keenly enjoying the pleasure of skating when it is brought to their doors are content to disport themselves on the nearest pond, practising figures for which they, perhaps, have no special taste or qualification, having never realised that an hour's journey by rail may enable them to vary their recreation by an alternative form of exercise less complex in character, but equally exciting and invigorating. I have, therefore, endeavoured to show how the pleasures of straight-away skating can be most readily cultivated, and at the same time to afford instruction and amusement to the general reader by a short history of the development of skating, by some hints and reflections that may be of service to beginners, and by a few anecdotes suggested by the reminiscences of nearly half a century.

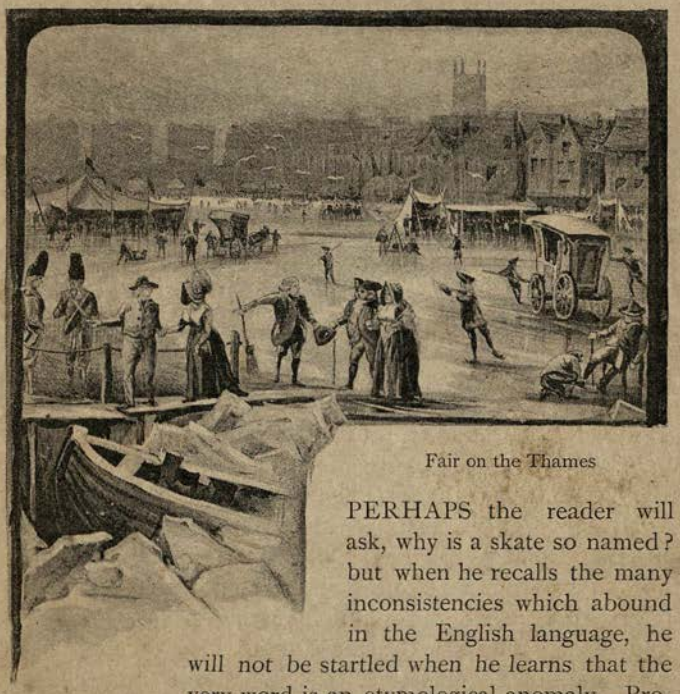
I am fortunate in having secured the assistance of a colleague, Mr. C. G. Tebbutt, whose successes on the racing track have enabled him to write with exceptional authority on these matters. To him, therefore, in the first place my thanks are due; but I wish also to express my indebtedness to Professor

Skeat for the assistance he has given me in my attempt to trace the etymology of the word skate, to Mr. W. F. Adams, the Hon. Secretary of the London Skating Club, whose practical illustration of the art of sailing on skates was especially valuable to me, to Mr. T. Maxwell Witham, to Mr. James Drake Digby, late Hon. Secretary of the National Skating Association, and to his son Mr. Newton Digby, the present Hon. Secretary, who have given me access to the earliest minute-books of the transactions of the association; to the editor of the 'Stamford Mercury,' from which almost prehistoric journal I have derived much valuable information, and to the many professional and amateur skaters who have rendered me material assistance.

CHAPTER I

THE ORIGIN AND DEVELOPMENT OF SKATING

By J. M. Heathcote



Fair on the Thames

PERHAPS the reader will ask, why is a skate so named? but when he recalls the many inconsistencies which abound in the English language, he will not be startled when he learns that the very word is an etymological anomaly. Professor Skeat tells us that it should be 'a skates,' with a plural of 'skateses,' but that the final *s* having been taken for the plural suffix has thus gradually fallen into

disuse. He quotes similar instances of 'apocope,' as 'cherry,' which was formerly 'a cherris,' derived from κερασός, *cerasus*, North French *cherise*; and 'pea,' once 'a peas,' which may be traced to πίσος, *pisum*. The word is not really English, but was borrowed from Holland; the Dutch equivalent for a skate is *schaats*, and for skates is *schaatsen*, where *en* is the plural suffix; but as early as the seventeenth century we notice the adoption of the modern form, *skeates*, *scheets*, and *scates* being used in the plural.

Professor Skeat also tells us that the etymology of the word is obscure, but that, as *t* and *k* are often interchangeable, it is possibly derived from the Low-German *schake*, a shank or leg; and he thus traces the word to its Teutonic base *skak*. It is remarkable that the modern German *schlitt-schuh* (a slide-shoe) and the Swedish *skridsko* should owe their origin to another source; but the Low-Latin *scatia* (a stilt) and the Danish *sköite* are probably derived from the same root, as is also the French *échasses*, which is explained by Cotgrave as 'Stilts with *scatches* to go on, a contrivance to lengthen the stride.' This is also evidently the first meaning of the modern French equivalent for a skate, *patin* (whose root is given by Littré, as *patte*), which formerly signified a thick-soled boot, a clog, a patten, a snow-shoe. This word was introduced into our own country by French or Flemish refugees who fled from the fury of Philip and Alva in the sixteenth century, and it is still a common expression in the fen country. Five and twenty years ago to 'put on pattens' was as frequently used as to 'put on skates,' nor indeed has it yet entirely fallen into disuse. Passing through Whittlesea in December of last year (1890), I observed an advertisement displayed by an enterprising but imperfectly educated mechanic of that town announcing, 'Pattons grond here!'

The inference that necessity was the mother of the art of skating may be drawn with as much confidence as that the requirements of man supplied the first cause of hunting, archery, and many of our sports and pastimes. When

snow had obliterated the rude tracks along which primæval men were wont to propel their still ruder vehicles, the substitution of a sledge for a wheeled carriage may have occurred to travellers, and the adoption of wooden, bone, or iron runners would naturally be suggested with the view of reducing friction.

In the museum at Cambridge may be seen the combined ulna and radius of a red deer, and bones evidently ground down by friction are shown in the British Museum and also

Bone 'Runners' exhibited at Guildhall

at Guildhall. These bones may have been sledge-runners, or they may have been bound on to the ankles of men, like the *talares*, or winged sandals of Mercury, and used as aids to locomotion on snow or ice. Fig. 1 represents bone 'runners,' which are exhibited at Guildhall. These were discovered in April 1869, in the site of Gooch and Cousins' warehouse, London Wall, and with them were found two Roman sandal shoes. The Curator of the Museum states that excavations frequently bring to the light of day bones of a similar character, and, although he can offer no positive evidence of the truth of his hypothesis, he is strongly of opinion that these

bones were used as skates. But in what century or in what country these or similar contrivances were first adopted, must remain to some extent a matter of conjecture. Scandinavian archæologists claim an antiquity of 1600 years for the art of traversing snow and ice in this manner, to which frequent reference is made in early Runic poetry and mythological song.

In the first chapter of 'A System of Figure-Skating'[1] the author brings under the readers' notice information which he received from Stockholm through the kindness of a friend, Mr. Kreuger, a native of Sweden, which I will venture to quote *in extenso*.

Remarks on the Origin of Skating, translated from the Swedish.

When this exercise was originated is unknown, for, as far back as we have any account of it, it was perfectly well known and practised in the whole North. Its origin, however, unquestionably belongs to the people of the North—that is, to the Scandinavarians and Germans, amongst whom it is in most common use—because the Greeks and Romans knew nothing of this science, nor have they any special terms in their language to express skates or skating. The origin of skates in their present form cannot be reckoned further back than the so called Iron Age, or about 200 years after the birth of Christ, because iron first came into general use then throughout the North.

The art of sliding with snow-shoes or runners, from which skating is derived, is still older, and belongs to the inhabitants of the North. But these shoes were made only of wood, and resembled our present form of snow-shoes, which are used by the inhabitants of the most northerly parts of Sweden and Norway in the mountain tracks on their journeys across the immense snowfields. These were used originally by the Finnish people in the North, for which reason they were called from this time 'Skrid finnai' (sliding Finns), a common name for the most ancient inhabitants of Sweden both in the Norsk Saga and by foreign authors. After iron became known and was worked in the North, iron runners were put under these snow-shoes; and in this way the present form of skates was developed, as well as proficiency gained in skating on the ice—a

[1] H. E. Vandervell and T. Maxwell Witham. London: H. Cox, 346 Strand.

proficiency in which the Northern people early excelled, and which was reckoned as one of their chief accomplishments, and about which the Norsk Saga speaks with pride. But as amongst these Northern people also were Anglo-Saxons who in the year 450 A.D. subdued the south part of Britain, together with Danes and Normans who—the former in 1015, and the latter in 1066—conquered the whole of England, probably the use of skates was introduced by these people into England, together with other Northern customs. On these grounds the origin of the present form of skates and skating may be attributed to the Northern people about 200 years after the birth of Christ.

It is certain that some contrivance for locomotion on ice was common in England in the twelfth century, for we read in an early translation of FitzStephen's 'Description of London, which was written in Latin, and published in 1180:

When the great fenne or moore (which watereth the walls of the citie on the North side) is frozen many young men play on the yce . . . some striding as wide as they may doe slide swiftlie; asome tye bones to their feete and under their heeles, and shoving themselves with a little picked staffe do slide as swiftlie as a birde flyeth in the aire or an arrow out of a cross-bow.

That history reproduces itself is practically illustrated by the smock-frocked Sussex peasant, who, when the flooded meadows adjoining the rivers Ouse and Adur are covered with hard, smooth ice, can attain a very high speed with no other assistance than two sharp-pointed sticks, and hob-nails in his boots.

There is no historical evidence that iron blades were used in mediæval times, but it is recorded that in 1572 A.D. the Dutch fleet, being frozen in the Y at Amsterdam, Don Frederick, the son of Alva, sent a body of men to take the vessels, but the Dutch musketeers sallied forth on skates, and successfully routed the aggressors. We are told that in Norway and Sweden hunters equipped with skates can successfully avoid and pursue wolves on the ice, and the following legend illustrates the important part played by a pair of skates

in a dramatic incident in the backwoods of America. A Canadian settler, who having been taken by Indians was about to be subjected to the fate which usually befalls such captives, chanced to observe among the spoil of a recent raid a pair of skates. Affecting an interest in, and some knowledge of the implements, he persuaded his captors to allow him to illustrate their use on an adjacent lake, which was then covered with ice. In order to avert suspicion, he was careful to conceal his familiarity with his newly acquired auxiliaries until a possible chance of escape should present itself. The chance came at last; the accomplished skater started off at full speed, and was able to baffle his pursuers.

The art and practice of skating has been more constantly located in the Netherlands than in any other country. Communication between important centres of commerce is maintained chiefly by canals, and when these became closed to navigation by ice, the frozen surface afforded a ready and rapid means of locomotion. Dutch men and women habitually made use of these ice highways; young Dutchwomen have been known to skate to market, carrying their infants and baskets of eggs.

So far, the relation of skating to utilitarian objects has alone been considered, but we find that the devotion of our countrymen to sports and pastimes on ice began to assert itself in the time of Charles II., as may be seen by the following extracts from the diaries of Pepys [1] and Evelyn :—

Dec. 1.—To my Lord Sandwich's, to Mr. Moore and then over the Parke, where I first in my life, it being a great frost, did see people sliding with their skeates, which is a very pretty art. Dec. 15.—To the Duke, and followed him into the parke, where, though the ice was broken and dangerous, yet he would go slide upon his skates, which I did not like, but he slides very well. And,[2] Dec. 1, 1662.—Having seen the strange and wonderful dexterity of the sliders on the new canal in St. James' Park performed before their

[1] *Pepys' Diary*, vol. i., pp. 345, 347. London. 1829. 2nd ed.
[2] *Memoirs of John Evelyn*, 2nd ed. London. 1819.

Maties by divers gentlemen and others with scheets, after the manner of the Hollanders, with what swiftness they passe, how suddenly they stop in full carriere upon the ice, I went home by water, but not without exceeding difficultie, the Thames being frozen, greate flakes of ice incompassing our boate.

Macaulay tells us[1] that Monmouth, Charles II.'s son, learned from the Dutch ladies the art of skating on the frozen canals in their country, and that he in return gave them instruction in the English country dance.

Little is recorded of the development of skating in the eighteenth century, but scenes of life and character, and representations of races and games, are immortalised in the works of Antony Beerstraaten, Vanderneer, Ostade, and other Dutch artists, while the 'Illustrations of Fairs held on the frozen Thames in 1716 and 1740' prove the popularity of the exercise of skating in our own country.

At the present time there is no exercise more cosmopolitan than skating. We should hardly expect to find it in any part of the 'Dark Continent,' but perhaps some future explorer of Kilima-Njaro or Ruwenzori may find in their neighbourhood a suitable arena. The 'mild Hindoo' is not likely to be a first-rate exponent of the art, but even India has its devotees. On frozen lakes at Nainithal, a hill station near Bareilly, and on large reservoirs at Murre Brewery, forty miles north of Rawal Pindi, enterprising English officers who may chance to be quartered in that neighbourhood make frequent expeditions for the purpose of skating. On one occasion the sport aroused the enthusiasm of the natives of what is now part of the Chinese Empire. In the winter of 1873–74 an English officer attached to Sir Douglas Forsyth's mission to Yarkand crossed the Himalayas from Cashmere, and spent four months at Kashgar, a town north of Yarkand. A lake four miles in length adjoined his residence, and being the fortunate possessor of a pair of 'Acmes,' he was accustomed to indulge daily in his favourite amusement. The Turcomans, who are of the strictest sect

[1] *History of England*, chap. v.

of Mahomedans, and who are wont to envelop their nether limbs in roomy pantaloons, were at first disposed to regard the exposition of even the male human leg encased in close-fitting integuments with feelings akin to those of the sternest of metropolitan stage-censors; but, the Ameer having evinced a keen interest in the sport, curiosity after a time overcame their scruples. On one occasion, when Sir Douglas Forsyth's party were paying a visit to the Governor of Kashgar, my friend skated on the reservoir in his grounds, an object of wonder and admiration, and a ringing cheer broke from the spectators, more than two thousand in number, when accepting a cup of tea he skated away with it, taking an occasional sip without checking his career. The Ameer, on hearing of this, was so pleased that he ordered seven pairs of skates to be made forthwith. The task was entrusted to the most skilful local mechanic, who supplied a very respectable skate with a wooden foot-stock, and blade of the best procurable iron. Some young athletes were told off for instruction, one of whom, a mullah (priest), proved an intelligent pupil, and a credit to his instructor.

The passage in Thomson's 'Winter,'

> Batavia rushes forth, and as they sweep
> On sounding skates a thousand different ways,
> The then glad world is maddened, all to joy,

must have been suggested by scenes which are of daily occurrence in Friesland, on the Amstel, and on the Dutch canals; the thousands who frequent the ornamental water in the Bois de Boulogne indicate the interest taken in skating by the French; indeed, there is no part of North America or of northern Europe—except, perhaps, Russia—where the art of skating is not entitled to be styled a national sport.

These brief records of the development of skating would be incomplete if I did not allude to the attempts which have been made from time to time to ignore the sway of King Frost, and to enable enthusiasts to skate on a floor and under

cover careless of the sample of climate with which they are favoured. The first attempt in this direction was made by Joseph Merlin, a native of the city of Huy, near Liège, who came to England with the Spanish Ambassador in 1760. He was a musical-instrument maker, and an ingenious mechanician, who for many years was accustomed to exhibit his inventions at Cox's Museum in Spring Gardens. Among his novelties was a pair of skates contrived to run on wheels.

> Supplied with a pair of these and a violin, he mixed in the motley group of the celebrated Mrs. Cornelly's masquerade at Carlisle House, Soho Square, when, not having provided the means of retarding his velocity or commanding its direction, he impelled himself against a mirror of more than 500*l.* value, dashed it to atoms, broke his instrument to pieces, and wounded himself severely.[1]

This catastrophe may have daunted inventors for a while; but in 1819 M. Petitbled patented a skate furnished with three copper wheels; and four years later R. Tyers, a fruiterer in Piccadilly, took out a patent for his 'volito's,' as he termed his invention. These skates were furnished with five small wheels in single line, and were used at a skating exhibition held in the tennis-court which then stood in Windmill Street, Haymarket. Twenty years later wheeled skates were used by M. and Mme. Dumas at the Théâtre de la Porte St.-Martin, Paris; and in 1849, frequenters of the opera witnessed with wondering admiration the Ballet des patineurs in Meyerbeer's 'Prophète.'

In 1857 skating-halls were opened in the Strand and in Covent Garden; in 1859 Woodward's vulcanised india-rubber wheels supplanted the metal wheels heretofore used, but excessive friction enhanced the difficulty of executing any figures except those of the simplest character, and the problem was as far as ever from solution until the year 1863, when Mr. J. L. Plimpton patented in America his now world-renowned skate. This skate is furnished with two parallel sets of wheels,

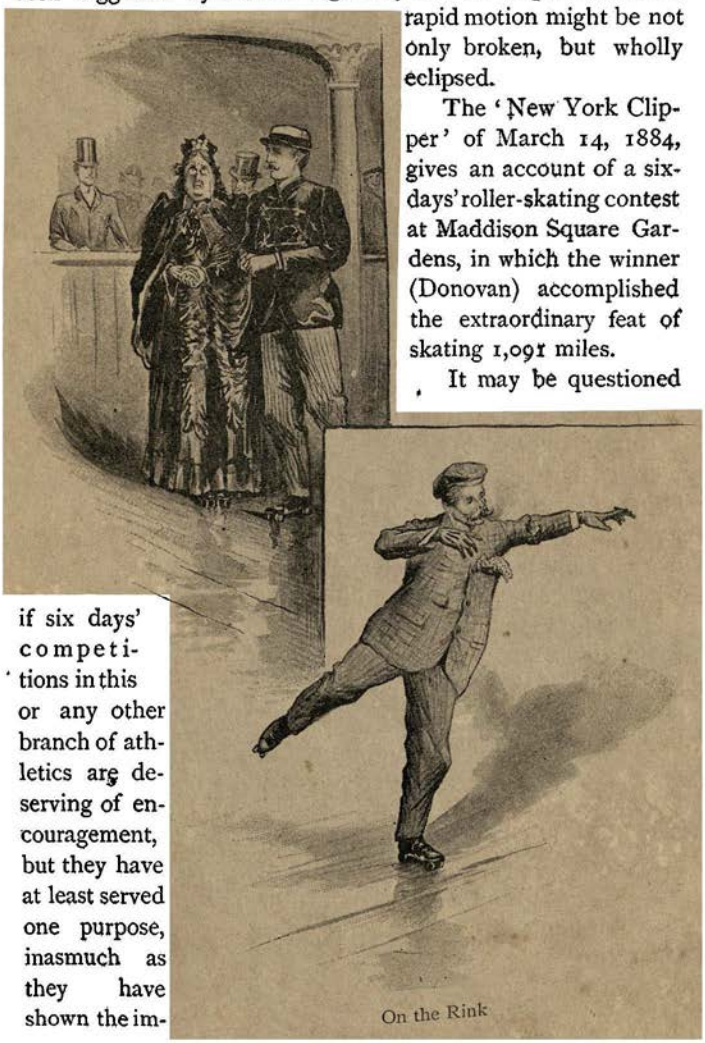
[1] *Belgravia*, December, 1879.

one pair under the ball of the foot, the other pair below the heel. These wheels are attached to two inclined *axes* at the toe and heel of the foot-stock, and are so arranged that lateral pressure of the foot-stock causes the wheel axles to converge to the side on which the skate-stock is tilted, and thus enables the skater to run on a curve. I was at one time a 'rinco-maniac,' and can testify from experience to the affinity that roller-skating bears to skating on blades; although an adept in the one art will not immediately attain proficiency in the other, they have so much in common that the aid afforded by each is reciprocal. The renowned fen-skaters, Smart and See, after a few weeks' practice, were able to illustrate how well-adapted to the attainment of high speed is Plimpton's skate, and any tiro whom assiduous practice has familiarised with roller-skating will realise the assistance he has derived therefrom when he attempts on a sheet of ice the 'pons asinorum' of figure-skaters, his first 3. The rink at Prince's Club, near Sloane Square, London, was daily the resort of hundreds of its members; on September 30, 1876, a marble skating-hall was opened in the Clapham Road, and at this period there was scarcely a town of any importance in England that could not boast of its rink with a floor composed of cement, asphalte, or wood. The extravagant popularity, however, of this exercise soon began to wane, and in the course of a few years most of these structures had ceased to exist, or had been converted into lawn-tennis courts. An improvement on Plimpton's invention has been effected by the addition of ball-bearings to the Raymond skate, which is now invariably used in the large skating-hall which was opened at Olympia, Kensington, on April 21, 1890. Maple and birch laid with the greatest possible care are the materials used in the construction of the floor of this excellent rink, and the result is a surface on which Curtis, Perkins, Delmont, and Buckhurst can attain a very high speed, rivalling, if not excelling, that of the cyclist or the skater on ice. Indeed, it is probable that if a straight course were constructed of carefully laid wood, or of marble, the

records of speed attainable by any contrivance that has hitherto been suggested by human ingenuity for the augmentation of rapid motion might be not only broken, but wholly eclipsed.

The 'New York Clipper' of March 14, 1884, gives an account of a six-days' roller-skating contest at Maddison Square Gardens, in which the winner (Donovan) accomplished the extraordinary feat of skating 1,091 miles.

It may be questioned if six days' competitions in this or any other branch of athletics are deserving of encouragement, but they have at least served one purpose, inasmuch as they have shown the im-



On the Rink

munity from physical prostration enjoyed by the exponents of roller-skating, whose condition at the close of their protracted race contrasted favourably with the distressed appearance of a pedestrian or a cyclist after a similar achievement.

But these are not the only attempts that have been made to defy the clerk of the weather, and to enable skaters to find amusement at all seasons of the year. In the year 1842 Mr. Henry Kirk claimed to be the inventor of a process by which a surface sufficiently hard and slippery to meet the requirements of skaters and sliders could be manufactured. The materials mentioned in his patent are (1) crystallised alum mixed with grease or hog's lard, (2) salts of soda, (3) melted sulphur. Of these ingredients, alum is the least liable to be affected by atmospheric influences, but it will not give so slippery a surface as that which is produced by a preparation of salts of soda. Kirk's invention was used in the formation of a 'miniature Alpine Lake,' 70 feet long, 50 feet wide,[1] which was laid down in Baker Street, and for a time was the frequent resort of skaters and sliders, but it was found that this surface was soon cut up by skates, was quickly spoiled by wet or drought, and that a fall on a floor composed of such materials was attended by more than ordinarily unpleasant consequences.

The first production of real ice by artificial means is an event which merits the attention of all who are interested in the annals of skating. Although the fact that evaporation is an agent for producing intense cold had long been known, its properties had received little attention in scientific circles, but a paper read on December 17, 1812,[2] by W. H. Wollaston, M.D., Secretary of the Royal Society, mentions the experiments made by a Mr. Leslie to absorb vapour by means of sulphuric acid, and describes an instrument called a 'Cryophorus, or frost-bearer,' with which a small quantity of ice could be formed in a few minutes, by condensation through the agency of salt and snow.

[1] *North British Advertiser*, Dec. 31, 1842.
[2] *Philosophical Transactions*, vol. ciii., p. 71.

In 1865 A. W. Parker claimed to have discovered a process by which 'ice could be produced offering a sufficiently substantial substance for skating or sliding.' The materials he used were carbonic acid and brine.

In 1870 William E. Newton, a civil engineer, adopted the invention of Matthew Julius Bujac, of New York, by which ice could be formed by the circulation of ammoniacal gas, ether, or carbonic acid, through tubes placed below the surface of the water, and he designed a building suitable for a skating club.

In December of the same year Professor John Gamgee took out a patent for making ice by artificial means. In his specification he claimed to have effected an improvement on refrigerators which had heretofore been used by the general construction and arrangement of his apparatus, by the adoption of a vacuum and condensing pump in order to quicken the evaporation of the liquid used in the production of cold, and the substitution of (1) formate of methyl, (2) acetate of methyl, and (3) a mixture of ether and protoxide of nitrogen, for ether, air, or ammonia, which had been used as the medium for the abstraction of latent heat. In 1875 Professor Gamgee patented his 'Improvements applicable to the formation and maintenance of skating rinks,' the most important of which appears to have been the substitution of glycerine, or some solution which will not congeal above 0° Fahrenheit, for brine, which when stagnant will freeze at 18°. The Rusholme Ice Rink, Manchester, whose floor was formed by Gamgee's process, was opened in 1876, and for rather more than twelve months met with some support from skaters and curlers,[1] but the inelastic character of its surface and its intense cold, which in some atmospheric conditions caused a thick mist and subsequent condensation, were prejudicial to the comfort of the skaters. The hall is now occupied by the Salvation Army, and the adjoining premises are converted into a swimming-bath. Gamgee's principle was again adopted at the rink at Southport, a watering-place on the Lancashire coast, about sixteen miles

[1] *Graphic*, March 24, 1877.

from Liverpool, the foundation stone of which was laid by Lord Clarence Paget on April 5, 1877. This hall, 164 feet in length, 64 feet in width, which had been constructed at a cost of at least 30,000*l.*, was opened on January 10, 1879, and was the school of many an accomplished skater; but while conducing to the amusement of the few, it failed to appeal to the sympathies of the many, and, although the spirited efforts made by Mr. Holden, the chairman of the company, and Mr. Nightingale, the manager, made this unique real-ice rink available for a decade, it was found to be commercially unsuccessful, and was closed on May 18, 1889.

Before closing this chapter, I will make brief mention of winters of more than ordinary severity, which have been chronicled in the pages of history. The 'Encyclopædia Perthensis' records a frost which lasted five months in the year 220 A.D., and tells us that in 250 the Thames was frozen for nine weeks. The winters in 359 and 508 are mentioned as unusually rigorous: we are told that in 859 carriages travelled on the Adriatic, and that in 923 the Thames was again frozen for thirteen weeks. Further details have been collated in an interesting magazine article[1] by Mr. R. Heath. His researches show that the clearing of forests, the draining of marshes, and other results of the progress of civilisation have led to a diminution of the rigours of winter in Europe as well as in our own country. He tells us that 'In the great winter 974–75, the Bosphorus was frozen, and that one-third of the population of France is said to have perished from cold.' In 987–88 the frost lasted 120 days. The winters of 998–99 and 1020–21 are mentioned as exceptionally inclement seasons, and it is said that on Midsummer day, 1035, the temperature fell below freezing point. 'And this,' he says, 'goes on through the eleventh, twelfth, and thirteenth centuries, mention being made of more than forty remarkable winters, when the rivers of Europe, even the lagoons of Venice, were frozen.' In the winter of 1410, ice remained on the Thames for fourteen

[1] *Leisure Hour*, Jan. 1891.

weeks. In 1564 the Thames in London and the Rhône at Arles were blocked with ice; in 1570 the French rivers were again frozen: mention has already been made of the Dutch fleet being ice-bound at Amsterdam in 1572. 1582, 1584, and 1591 are quoted by M. Renou, Secretary of the Meteorological Society in France, as winters of extreme severity. The winters in 1649, 1662, 1664, 1683, and 1688 may be described as Siberian atrocities in this country; those of 1691, 1695 and 1696 on the Continent, so much so that we hear of wolves entering Vienna in 1691, and attacking not only cattle, but men. In 1708, 1716, 1725, 1726, 1728, and 1729 the winters were very cold, in 1740 abnormally so; in 1762 the frost lasted ninety-four days; 1766, 1767, 1783, and 1788 were exceptionally inclement years; on the last of these the Thames was frozen down to Gravesend, and a fair was held on its surface. January 25, 1795, is commonly supposed to have been the coldest day ever known in England. The temperature in London is said to have fallen to eight degrees below zero, and three hundred vessels to have been ice-bound in the Thames. The winter was also very severe in Northern Europe, for the Marne, the Scheldt, the Rhine and the Seine were frozen so hard that regiments of soldiers and heavy carriages could pass over them. The chronicles of this century record severe and protracted cold in 1802, 1805, and 1811; the winter of 1812-13 is memorable for its inclemency on the Continent, and that of the following year bore some resemblance to the season 1890–91 in our own country. We are told that, 'In London, a darkness that might be felt lasted a whole week, during which people in the streets only saw each other by the red glare of a flaming link, or knew of each other's existence by the cries of alarm which rose on all sides.' Fog was succeeded by snow, and by a subsequent thaw of short duration, and a return of severe cold. In that winter the frost was so sharp that the river Cam was closed to navigation; and Professor Sedgwick tells us that when his supply of coal was exhausted, he was obliged to burn his gun-case and some of his

chairs for fuel.[1] The ice on the Serpentine was so strong, that Lord Ranelagh drove upon it in a Russian sledge drawn by brown Arabian horses.[2] In 1819–20 frost was continuous from November to March; the Thames at Woolwich was frozen in several places to a thickness of five feet, while at Lambeth a piece of ice was found twelve feet thick. In 1822–23, the annals of the fen-country record the passage of carts drawn by donkeys on Whittlesea Mere; severe cold was experienced in 1827, 1829, and 1835, and the following extract from a letter written by Professor Sedgwick on January 30, 1841—'From Ely I went to Whittlesea, and saw thousands, and, I think, tens of thousands, whirling on the ice. There were certainly 10,000 persons assembled one day on Whittlesea Mere to see a match'—bears testimony to the inclemency of that winter.

The winter of 1844–45 was long and cold; that of 1847–48 was remarkable for severe snowstorms and unprecedented changes of temperature, and still lives in my recollection, having given me frequent opportunities of seeing varied and interesting scenes on Whittlesea Mere. It is unnecessary to dilate on the rigour of the ever-memorable Crimean winter, which is now a matter of history. On Christmas Day, 1860 the temperature fell to zero, and the frost continued for several weeks, and it is somewhat remarkable that in 1870–71, 1879–80, and 1880–81, and again in 1890–91, the frosts have been more severe and protracted than any that had occurred in the intervening decades.

Perhaps we may look for a return of the 'good old times,' but the comparative immunity from severe cold which we have of late years deplored—or welcomed—suggests a reflection, which, however, will not find a ready response in the hearts of fox-hunters,

When they seldom come they wished-for come.

[1] *Life of Prof. Sedgwick*, vol. i. p. 131.
[2] *Stamford Mercury*, Jan. 1814.

A Race on Whittlesea Mere in 1835
(*From a Sketch by J. M. Heathcote*)

CHAPTER II

FIRST PRINCIPLES OF SKATING, AND SUGGESTIONS TO BEGINNERS

BY J. M. HEATHCOTE

IT was once wisely said 'Experience is the best schoolmaster, but the school fees are often somewhat heavy.' To no sport, game, or exercise is the truth of this remark more applicable than it is to skating; for experience, which can only be obtained by assiduous practice, is indispensable, and the fees—usually exacted in the form of falls—are, no doubt, occasionally heavy. These are, however, cheerfully defrayed by the young pupil. Falls are, indeed, the only fees which need concern him, for there is no sport or recreative exercise which involves less expenditure of capital in its outfit, and fewer incidental disbursements in its pursuit, than skating. Nor is there any amusement, except perhaps riding, shooting, and golf, which affords as much pleasure to those who have passed the meridian of life; many men of moderately active habits have derived keen enjoyment from its pursuit through half a century of their existence.

Skating also presents features which in the eyes of some athletes may be considered to contrast favourably with games and sports in which sympathy of hand and eye is of paramount importance, in which emulation and a longing for fame, an integral factor in their charm, and in which chance —generally called success by the winner, 'flukes' by the loser—plays a considerable part in determining their issue.

Fernand Lagrange tell us [1] that exercises which need balancing have a remarkable tendency to make the back straight, and that athletic pursuits in which speed is the chief element call into play air-cells which would be otherwise inactive, and increase the power of lung and thorax. The practice of speed-skating is eminently calculated to develop these tendencies, and promoting, as it does, warmth, even perspiration, without undue fatigue, may be recommended as a health-giving pursuit; and when we contrast the muscular frame of the renowned 'Turkey' Smart with the lithe figure of Green of March, who was at one time one of his most formidable antagonists, or Harold Hagen the Norwegian, who is 6 ft. 1 in. in height, with his countryman Axel Paulsen, who measures but 5 ft. 4 in., we may realise that in whatever form we may be moulded distinction may be within our reach.

It is hardly necessary to urge the importance of wearing woollen clothes when engaged in any strong exercise, but a word of advice as to 'chaussure' may be useful. Boots are better than shoes, not only because they give support to the ankle and instep, but also because they counteract a tendency to bend joints which cannot be kept too rigid. A pair of well-fitting boots whose soles are of moderate thickness, not inordinately broad, and are not much curved by constant use, should be selected. Extravagantly high heels are most mischievous, as they create a tendency to turn the ankles inwards; laced boots are more comfortable than those fastened by buttons, which may interfere with the adjustment of the skate-straps; hob-nails or sprigs are not useful in any way, and they may scratch or otherwise injure the foot-stock. The skater whose skates are furnished with a heel-screw should bore a hole large enough for its reception in the centre of the heel, taking care that the end of the foot-stock of the skate shall coincide with the hinder edge of the sole of the boot, and he may take the precaution of plugging this hole with cotton-wool, paper, or tow, if it is likely that gravel roads or cinder-

[1] *Physiology of Bodily Exercises.* London, 1889.

paths must be traversed on the way to the ice. Nothing is more annoying than to find the hole intended to receive the heel-screw occupied by a small pebble which may be as hard to extract as a thorn from the finger or a molar from the jaw.

A pair of skates of any pattern, provided only that they are of the right length and are firmly fastened on to the boot, may serve to introduce the tiro to what we may call the grammar of skating; but, as soon as he is familiar with the rudiments of the art, the young skater who cherishes dreams of future distinction on the racing track should provide himself with a good pair of running-skates (*i.e.* skates equipped with blades whose convexity is infinitesimally small), and use these and these only. For the difference between a fen skate whose blade is to all intents and purposes level, and a 'Dowler' whose curvature is represented by a radius of seven feet, is very great. Anyone who has been constrained to take a long journey on 'Acmes' or any other species of figure-skate will realise how the tendency of the level skate is to go straight, that of the curved skate to turn either on to the inside or the outside edge, and that of the former is far superior to the latter for the acquisition of the long firm stroke of the traveller or the racer.

But many young skaters aspire to attain excellence in both branches of the art, and that such distinction may be within their reach has been demonstrated by the Norwegian skaters Axel Paulsen and Karl Verner, by Panschin the Russian, and many other skaters who have earned the highest honour on a rink and between the flags. The best years of youth should be devoted to climbing ladders intellectual and physical, but I would suggest to the ambitious tiro, do not attempt to climb two ladders at the same time, do not provide yourself with a hybrid pair of skates, warranted suitable to straight or figure skating; but wear your 'Club' skate when you wish to practise the graceful curves which will be described in another section of this volume, and while learning to go ahead be sure that you are provided with the implement best adapted to the

purpose. Messrs. Hill & Son, 4 Haymarket, London, have been long known as manufacturers of skates of the highest possible quality and finish. Messrs. Thornhill of Bond Street and Messrs. Underwood of the Haymarket are also skate-makers of known excellence, but the Standard skate made by Messrs. Colquhoun & Cadman, 113 Arundel Street, Sheffield, or the skates made by Marsden, also of Sheffield, may be confidently recommended as suitable for general use. These may be obtained from any cutler or ironmonger at prices varying from 12*s.* to 18*s.* Experience has shown that a wooden foot-stock is better adapted to straight skating than any of the modern appliances with the aid of which the use of wood and leather is rendered unnecessary. These appliances are invaluable to figure-skaters, but are not well suited for the rougher work of travelling.

'N. G.' tells us that they are seldom secure, and at all times, especially on rough ice, they make a disagreeable jar and clatter. Experience shows that there is nothing at once so strong, so light, so pleasant and so safe for a long ice expedition as a combination of steel, wood, and leather;[1] with this opinion I entirely concur. Oak, walnut, rosewood, and beech are used for the foot-stock; of these beech, which is light and also strong, is the best; walnut, which is liable to splinter, or even to split, is the worst. The foot-stock should be of the same length as the boot, to which it will be fastened; its greatest width should be about $2\frac{1}{4}$ inches; there should be no difference between the right skate and its fellow. The blades should also resemble one another in every detail. They are made of wrought iron with a quarter of an inch of hardened steel, welded on to the lower part. The base of the keel should be about $\frac{5}{32}$ of an inch in width, the sides should be perpendicular so that each edge of the blade shall be perfectly rectangular; the height varies from $\frac{1}{16}$ of an inch at the heel to $\frac{7}{16}$ of an inch at the toe. The height of the foot-stock and blade combined is about $1\frac{1}{4}$ inch. The blade of a skate worn by a man

[1] *Skating.* All England Series. London: Bell & Son. 1890.

of average height, including the prow, is about 13½ inches long. The prow commences to rise gradually at first, afterwards in a more abrupt curve. The end of the prow should not be more than two inches above the surface of the ice. A large majority of running-skates are equipped with this apparently superfluous figure-head, and it may be worth while to consider what advantages accrue from its use. In its favour it may be urged that the curved prow will enable the skater to pass easily over

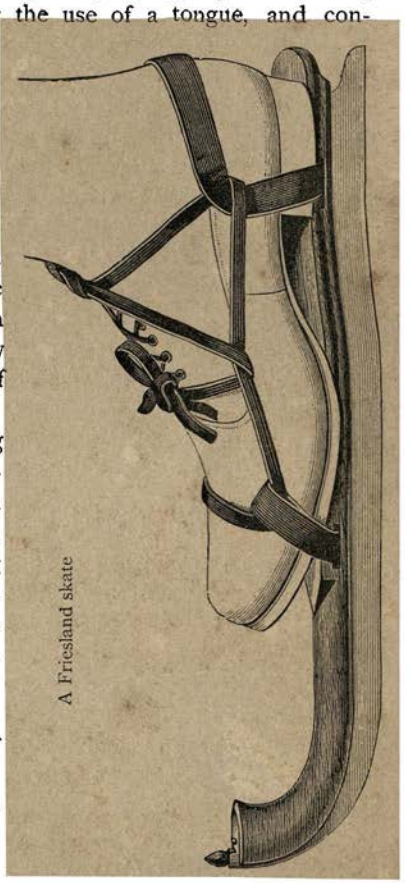
English skates

hummocky ice, over fragments of broken ice that may be lying on an otherwise smooth surface, or any obstacle that might cause a check or perhaps a fall ; but it may be argued with equal force that it may impede the movements of the traveller who in the course of his journey is constrained to climb up or down a steep slippery bank without removing his skates, and that the skates are less easily carried in a hand-bag or small portmanteau on account of their greater length. I confess that

I am one of the minority who prefer to dispense with what I consider a somewhat unsightly encumbrance.

The fastenings for skates commonly used are a heel-screw about $\frac{5}{8}$ of an inch in height, two or more small screws or spikes of sufficient length to obtain a grip of the boot sole at the broadest part of the foot-stock; a heel-strap about twenty inches in length which passes through the hole in the foot-stock behind the heel-screw and is fastened by a buckle across the instep, and a toe-strap about thirty inches long which passes through holes made for the purpose in the foot-stock, and is crossed over the foot and secured by a buckle. It is immaterial whether the buckle is worn on the inside or the outside of the foot, and the skater will quickly find out for himself how the straps can be most quickly and comfortably adjusted. These straps should be of the best leather, they should be not less than $\frac{5}{8}$ of an inch in width, and the holes which receive the tongue of the buckle should be not more than half an inch apart. The excellence of this system of fastening is shown by the reluctance of speed-skaters to avail themselves of some inventions that may here be briefly mentioned. Fifteen years ago Messrs Hill & Son patented their 'Back Screw,' or 'Hook and Eye,' skate which dispenses with the heel-screw, and in its stead is a contrivance at the back of the skate to which a small hook screw inserted into the heel of the boot is attached. It is urged that this horizontal screw gives less trouble, and is quite as firm as the vertical screw generally used. A simpler and better contrivance, called 'heel-and-sole clips,' was introduced by Messrs. Colquhoun & Cadman about two years ago, and may perhaps supersede all fastenings now in use. These clips are brass fittings about half an inch in height and about the same width, adjusted to each side of the heel of the foot-stock, and a moveable fitting of the same character adjusted to the inner edge of the foot-stock at the ball of the foot. They can be attached to any skate from which the heel-screw has been removed, and it will be found that much time will be saved when skates so equipped

are taken off and put on again, an operation which is often necessary in the course of a journey. Fogg's patent buckle, which renders unnecessary the use of a tongue, and consequently of holes in the straps, or a double buckle in which the ordinary buckle is used as a pulley through which the end of the strap is passed and fastened to a second buckle, is recommended, and some skaters prefer to use broad straps fastened with two buckles as less likely to impede the circulation of blood in the feet.



A Friesland skate

It may be interesting to contrast a pair of Friesland travelling skates with those used in our own country, for it is surprising that both Dutch and English skates, although differing from one another in so many important matters, should, when in the hands, or rather on the feet, of experts, be found so admirably adapted to their work. We must be struck at first sight by the great excess of length of the Friesland skates—at least four inches over those used in England; by the absence of the heel-screw, and by the arrangement of the straps, which differs *in toto* from our system. Other points of dissimilarity might escape the notice of a casual observer, such as the absence of any

perceptible curvature in the blade, and its narrow, almost knife-like, keel, which is little more than half the width of the English blade. The steel used for the blades is procured from England, but the skates are manufactured in Holland. The foot-stock is often made of oak, but beech is generally preferred on account of its lightness. The straps consist of a heel-strap ¾ of an inch in width, which passes through an aperture in the foot-stock, and is brought round the heel about two inches above the foot-stock, and of a toe-strap of the same width, about six inches in length. A leather thong, about three and a half feet in length, about a quarter of an inch in width, is passed through loops at the ends of the toe-strap, brought along each side of the foot round the heel-strap, then crossed over the instep, and its ends are made fast after once more being brought across the foot. In company with Dutchmen I have skated over ice of every consistency, and can testify to the firmness of what appears to be an insecure fastening, and to the facility with which it can be adjusted, and I believe that, while it is more comfortable than our system, it is scarcely inferior in durability, convenience, and security.

Neglect of implements which, if fairly treated, will last for a lifetime is inexcusable, so I will here introduce a few suggestions on the care that should be taken of skates both abroad and at home.

A convenient way of carrying skates to or from the ice is by the heel-straps buckled together, and hung over the fore-arm. Care should be taken that the foot-stocks are in juxta-position, not the blades, which might be injured by collision one against the other. Care should also be taken that the straps of skates carried in this manner are firmly buckled, or the loss of a strap or even of a skate may ensue. In the course of an expedition on skates, the transit from one watercourse to another frequently involves the passage over *terra firma*. The art of walking on skates is very easily acquired, and the risk of injury to blades by a walk on grass or in snow is infinitesimal; but if gravel or granite roads must be traversed the

steel edges may be chipped, and anyone who is careful of his skates will take the precaution of removing them before he leaves the ice. When the skates are brought home after a day's work the blades should be wiped dry, and after every symptom of rust has been removed by means of fine emery paper, they should be rubbed with vaseline, mutton-suet, or oil.

The straps should also be dried, but care must be taken that they are not scorched. They should be well smeared with sweet oil or Russian tallow before the skates are put away at the end of the season, and the foot-stocks should be rubbed with oil.

It is impossible to say how often blades should be ground. If they have not been subjected to rough usage, perhaps once in ten years may suffice; but if the edge becomes dull, or the blades chipped or otherwise injured, the skates should be promptly taken to a thoroughly competent workman. All matters pertaining to the care of skates should be attended to at the *close* of the skating season. The foot-stock, blade, and straps of a neglected skate will be at the mercy of dry-rot, rust, and mildew; moreover, at the beginning of a frost skates are in immediate demand, skate-makers and their workmen are constantly occupied, and a good day's sport may be lost in the attempt to remedy the neglect of the past season.

Skating is an exercise admirably adapted to the young as well as to adults of both sexes, and the suggestions that will be offered in this chapter on the first principles of the art are equally applicable both to boys and to girls. It is impossible to lay down any dogma as to the age at which a beginner may be entrusted with a pair of skates. A strong child in his eighth year, or perhaps even at an earlier age, may put on skates, and try, first to stand, and then to walk with short paces in a room, and if his ankles are strong enough to allow him to place his feet alternately on the floor on an upright blade, he may make his first essay on ice without misgivings.

The first steps on ice will to a great extent be dependent on the temperament and physical powers of the beginner. A bold eager boy is often tempted to think that he can run before he can walk, and will scuffle about on the ice, knowing nothing and caring less about 'form,' impatient of advice, and regardless of falls. In the course of an hour or two he may find himself able to go along somehow at a fair pace, but it is more than probable that he will have much to unlearn, unless he is willing at the outset to profit by the advice of those who are competent to give it. Some boys, on the other hand, are constitutionally nervous, and require encouragement and a friendly hand, which will avert the dreaded fall. This assistance can be most effectively rendered to a young skater by a hand placed palm upwards below the elbow of the pupil, who may in this way receive guidance as well as support.

There are no professional 'coaches' to the art of skating, but it is commonly said that at Welney, a village which has been the school of more illustrious 'runners' than any other place in this country, a rough-and-ready style of instruction is practised. A narrow ditch is selected for the lesson in order that the employed foot may be compelled to move as nearly as may be in the line of intended motion; the novice is directed to follow a good skater who gives him a lead, while another follows with a willow switch in his hand, to be used when necessary. Be this as it may, it is certain that precept, early training, and imitation of others engenders in the young fenmen a style of 'running' which has enabled them, in spite of the scant opportunities for practice afforded by our capricious climate, to hold their own with the most renowned skaters in the world. I can well remember the mortification I experienced, when with the arrogance of an Eton boy I fancied that I was a fast skater for my age, at finding myself completely outpaced by a sturdy youngster a head and shoulders shorter than myself, who adjusted a rusty pair of irons on to his boots, with inadequate straps supplemented with string, and went away from me as if I were standing still. I have

often wondered who that boy was, and if he subsequently gained laurels on the track.

The young skater must take care that his skates are firmly fastened on to his boots; he must learn to adjust his straps

so that the maximum of security may be combined with the minimum of pressure. He must bear in mind that the axis of the foot-stock should not coincide with the axis of the sole of his boot, but that the skate should be so adjusted that the blade shall be below the big toe. Having paid careful

attention to these matters, he should walk firmly but cautiously on the ice. His 'action,' however, will be very different from what it would be were he walking on dry ground. A pedestrian, starting from rest, throws forward one foot, the toe being pointed nearly in the line of intended motion, and when that foot is brought to the ground, he flexes the instep of the other foot, which must be brought forward in a similar manner. Any attempt to walk thus upon ice will be attended by a retrograde movement of the unemployed foot, which will fail to get any hold of the slippery surface, and progress will be impossible. The beginner should remember that the feet must be turned outwards, almost at an angle of 45° with one another, that the head is erect, that the body leans slightly forward, that, with the exception of the instep and ankle—which joints cannot be too rigid—every limb should be free and supple, and that the legs must learn to conform to, not to regulate, the movements of the body. If he walks in this manner he will soon find that when the right foot leaves the ice a tendency to glide will be imparted to the left foot, and that the right foot must be again brought up for the support of the body when the impetus thus imparted has ceased. This is a 'stroke' in its most elementary form, and at this stage in his education the novice will derive some assistance if he will push before him a 'Windsor' or 'kitchen' chair. If he does not thrust with some strength the chair will not move; when it does move he must follow it, and his grasp of the chair-back will not only give him confidence, but will help him to assume a good posture for speed-skating. But the sooner he dispenses with such an auxiliary the better, and a little practice will enable him to make his side-thrust with more strength and firmness, to remain longer on the unemployed foot, to regulate his direction by a subtle action of his muscles, and to acquire the poise and sway of the body which is considered by many competent judges to be the key to the best style of straight-away skating. In order to attain this poise and sway of the body, he must remember that when he makes the side-

thrust with the right foot, the left shoulder should be slightly in front of the right, and that the arms should swing easily, but without effort, from right to left, while the right shoulder is again brought forward in preparation for the next thrust. The result of this action will be that when the side-thrust is made with the right foot, the prow of the left skate will be turned slightly to the right of the line of intended motion, and the skater will run on the outside edge for a moment or so, then on the level keel of the blade, subsequently changing to the inside edge, and emphasising the inclination of the blade before he makes his next side-thrust. But some first-class skaters never swing their arms at all, some habitually clasp their hands behind their backs, some skaters make no use whatever of the outside edge, and it is a truism as applicable to skating as it is to art, literature, cricket, tennis, or golf, that while we cannot overrate the importance of closely observing the idiosyncrasies of an expert, a high standard of excellence does not necessarily involve the servile imitation of any model, or the adoption of any particular style.

In time of frost, the skater's first question is, 'Will the ice bear to-day?' This suggests some reflections on the nature and quality of the substance which plays so important a part in the amusement which is under our consideration. Observations on Arctic seas and mountain glaciers are beyond the scope of this treatise, but I will call the reader's attention to the four kinds of ice that are met with in this country.

Transparent, or black ice.

White, opaque, or snow-ice.

Anchor, or ground ice.

Ice which can only be described by its French name, *Verglas*, there being no equivalent in our language.[1]

The first of these is the result of frost on a sheet of still

[1] Larousse, in the *Dictionnaire Universel*, derives this word from *verre* and *glas*, the masculine form of *glace*. Littré contends (and his contention is probably correct) that the prefix *ver* is taken from the Old German *waron*, Holl. *weeren*, Fr. *se garer*.

water; although colourless and transparent, it appears to be black, or rather of a dark green, bottle-glass colour. Its elastic nature makes it by far the most trustworthy of all kinds of ice, so much so that a limited number of skaters may safely venture on ice of this character one inch thick. It may be assumed that thirty degrees of frost will suffice to produce this thickness on a moderately shallow pond, but ice formed in one night when the thermometer has fallen to two degrees will be harder and sounder than ice produced in three consecutive nights when the mercury has indicated ten degrees of frost.

White ice is produced when a fall of snow occurs while the first crystals are formed on the surface of the water, or when snow is partially melted and again congealed on the ice. It is full of air bubbles, and is most treacherous, especially when the temperature begins to rise. If, however, a severe frost follows a thaw which has adequately liquefied the snow, this white ice will offer a surface of superlative smoothness, and, although the skater may regret the absence of the melodious ringing music caused by the passage of skates over black ice, he will have no cause to complain of its quality.

Ground ice, or anchor ice, as it is sometimes called, is an apparent exception to the relation between the densities of water in a liquid and in a solid state. It is never found on the surface of still water, but in sudden and violent cold crystals are formed below the disturbed and eddying surface, and these crystals frequently cling to the bottom of the stream. The specific gravity of ice being ·92, these fragments of ice will ultimately detach themselves, and rise to the surface, occasionally bringing with them weeds or other objects to which they may have adhered. These fragments are usually full of cells, resembling those to be found in a wasp's nest, but less regular in form. I have seen them not unlike saucers of a greyish colour, floating in a black medium. A remarkable instance of anchor ice occurred above the Seven-hole Sluice—one of the most important features of the Middle Level Drainage System. The surface of the river was covered

with ice in a sudden and severe frost which had been preceded by a heavy fall of rain. When the frost broke up fragments of this ice were carried through the sluice-gates, and stranded on the opposite shore of the river. These, when examined, were found to contain perforated stones, resembling in every detail those that were once used by fishermen for the purpose of weighting their nets, and which had evidently remained undisturbed for half a century, until finally 'wooed from the slimy bottom of the deep.'

Professor Miller, in his 'Elements of Chemistry,' thus describes anchor ice :

> A curious formation of ice at the bottom of some rapid, clear and rocky streams is occasionally seen during the prevalence of bright frosty weather. The water cools down to 39·2° Fahr. as usual, but below this point the colder water no longer forms a protecting layer as in still sheets or gently moving streams ; the agitation produced by the passage of the water through its precipitous and irregular channel makes the temperature uniform throughout till it arrives at the freezing point. Angularities and points under all circumstances favour the deposition of crystals, and to the irregular surfaces of the rocky fragments in the bed of the stream the ice attaches itself in silvery cauliflower-shaped spongy masses, sometimes accumulating in quantity sufficient to dam up the stream and cause it to overflow ; at others, as the ice increases in bulk and buoyancy, it rises in large flakes, raising to the surface portions of rock, and even iron itself.

The absence of homogeneity in its nature necessarily makes such ice untrustworthy but in severe frost it may be traversed with perfect safety.

Verglas is formed when a fine rain falls, and is immediately congealed, covering every object with which it comes in contact with a coat of exceedingly hard ice. It is not of frequent occurrence, but it presents features of so abnormal a character that a few instances of this freak of nature may be invested with interest. In 'A Letter from Somersetshire,'[1] an account is given of a phenomenal fall of *verglas* which occurred in

[1] *Philosophical Transactions*, vol. vii. p. 5138.

December 1672. It was especially remarkable inasmuch as water was not even coated with ice, while every object on the ground, even soft snow which lay upon it, was covered with a thick sheet of hard ice. So persistent was the fall of frozen rain that sixteen pounds of ice was found adhering to an ash bough which weighed but three-quarters of a pound, and the disastrous ill effects on the orchards and timber trees in the south-west of England were long remembered. In the 'Annals of Sporting,' January 1822, it is recorded that a well-known skater once undertook to skate from Long Acre to St. James's Park in five minutes, and accomplished his task with five seconds to spare. Mr. John Ashton [1] mentions this remarkable feat as having been performed in the winter of 1813–14, and accounts for it by the flooding of the streets from the water-plugs after a heavy fall of snow. I will not venture to say that this is impossible, but a heavy fall of *verglas* offers a more probable solution of the problem. Readers of foreign intelligence will remember the graphic account of a *verglas* in Paris when carriages, cabs, infirm and even able-bodied pedestrians were compelled to play the part of the characters in the 'Legend of the Briar Rose' until released by a change in the weather. On January 15, 1861, I was staying at a country house in Northamptonshire, and for the space of an hour or two the *verglas* was so hard and thick that I was able to skate, not only along roads and paths, but upon the lawns and grass slopes of the pleasure grounds.

An approximate estimate of the strength of ice may be formed if a vertical blow is made with a strong stick on the surface. If a star-shaped bruise is the result of a blow delivered with some force, a further trial may be made; but if the point of the stick penetrates the ice, a prudent man will not trust himself on it. The skater should always bear in mind that a sheet of ice is seldom absolutely uniform in character. A subaqueous spring, affluents to or effluents from the sheet of water, overhanging trees, rushes and weeds, are sources of

[1] *Social England under the Regency.* London, 1890.

danger, and it should always be remembered that reflected heat from the northern bank of a pond or reservoir renders the ice less trustworthy than that which is protected from the rays of the sun by its southern bank.

The elastic character of black ice causes it to bend and crack beneath the weight of the skater, who, unless he wantonly disregards all warnings, will be subjected to less risk of immersion than will he who uses white ice which is liable to break up in a moment without having given any indication of weakness. Anyone, therefore, who is practising speed-skating on a pond or reservoir covered with black ice of only moderate thickness should carefully observe the cracks that appear in the surface. Isolated cracks, although perhaps extending across the whole sheet of ice, may be disregarded; others formed at right angles to these are scarcely worthy of notice; but the appearance of diagonal cracks through which a little water finds its way, and the subdivision of the triangular blocks thus formed into smaller triangles by more cracks, are a certain indication that the ice has been subjected to as severe a strain as it can bear. But many a rash skater, notwithstanding these warnings, will persevere, until the supreme moment arrives, and he becomes conscious that the ice is giving way beneath him. His only resource then is to throw himself forward on his face, and try to creep in a prone position on to sounder ice, whence he *may* be fortunate enough to contemplate with grateful amazement 'his hairbreadth 'scape' from 'the imminent deadly breach' he has made. But this resource *may* fail, and he may find himself struggling in cold water, making fruitless attempts to climb on to ice which breaks before him. His companion—and I will assume that no one is foolhardy enough to venture alone on unsafe ice—should hasten in search of a ladder, a pole, or a rope, with the aid of which he *may* be able to rescue his friend. For even an expert swimmer will find that it is far from easy to climb on to yielding ice if the water is no more than four or five feet in depth; far less easy if the bottom cannot be reached. Unless there should be

a current, the danger of being carried under the ice is inappreciable; but although the hands may have obtained a grasp of the surface of unbroken ice, it is difficult to counteract the tendency of the legs to swing beneath it, a tendency which must be familiar to bathers who for the first time attempt to climb unaided into a floating punt or boat. A friend of mine gave a practical illustration of this difficulty in the winter of 1855. Having separated himself from the rest of our party, he was unlucky enough to break through the surface of the frozen Cam, and, although able to touch the bottom with his feet, found it no easy matter to extricate himself. He ultimately succeeded in reaching *terra firma*, unaided, a pitiable object, his face sadly cut by fragments of broken ice, and his limbs benumbed by his protracted bath.

If a sheet of virgin ice must be crossed a reluctance to 'bell the cat' may often be observed; but it may be questioned if the leader or those who follow incur the greater risk, and the following anecdotes illustrate the immunity that occasionally may fall to the lot of the pioneer. I was returning to Cambridge one afternoon in the Crimean winter, and near the tail of a mill-stream I found several of my fellow-students hesitating to cross a treacherous-looking bit of ice. It wanted but five minutes to four—we dined at four o'clock in those days—I was young, pretty quick on my skates, possibly reckless, so with a call, 'The more you look at it the less you'll like it,' I rushed safely over; but my transit made the insecure ice still more dangerous, and the unfortunate undergraduate who tried to follow had a cold bath, and, I fear, a cold dinner.

On another occasion, a friend with whom I was skating broke through ice over which I had safely passed. He was near the bank, so his rescue was attended with no difficulty, but his fingers were so benumbed with the intense cold that he was powerless to take off his skates. Before I had disencumbered him of the one, the straps of the other were firmly frozen to his boot, and could only be removed by the use of a penknife, and soon after we had set off at a run towards

College, his legs were cut by the ice which had formed on his clothes.

I will mention one more incident which resulted in a more disastrous issue. Accompanied by two friends, I made an excursion from Cambridge to Littleport, a village some miles below Ely. Well knowing that the stream, although sluggish, would invest our trip with some risk, we provided ourselves with a rope about twenty yards in length, and following one another at a distance of ten yards or so, with the rope in our hands, we passed in safety over some miles of hitherto un-

Immersion and rescue

trodden ice. Presently some skaters of the district, deriving confidence from the marks our skates had made on the surface, followed in Indian file, close to one another as is their wont, broke through the ice, and one poor fellow was drawn by the current beneath the surface, whence he was not extricated until life was extinct. I well remember the gloom that was cast over our merry party when the news reached Littleport, and the remorse we felt at having been the innocent cause of the death of a fellow-creature. The many fatal ice accidents which are chronicled in our journals should act as a deterrent against foolhardiness on the part of young skaters;

and although I may be accused of preaching what I have not always practised, I venture to hope that these records of casualties may suggest caution rather than rashness, in which case they will not have been given in vain.

The Laureate writes[1]:

> I will be . . . careful of my motion
> Like the skater on ice that hardly bears him,
> Lest I fall unawares before the people,
> Waking laughter.

No one can hope to serve his apprenticeship on ice without an occasional tumble, nor indeed can the experienced skater hope for complete immunity from such accidents; but that there is an art in falling will be admitted by anyone who is accustomed to ride to hounds, or by the actor whom the exigencies of his vocation compel to faint or to die on the stage. Charles Allston Collins, in a humorous essay on Skating,[2] contrasts what he calls the 'scramble ineffectual' with the 'crash unresisted,' and quotes Sancho Panza's advice to those who are about to be tossed in a blanket: 'If such mishaps do come, there is nothing to be done but to shrug up one's shoulders, hold one's breath, shut one's eyes, and let oneself go whither fortune and the blanket choose to toss you.' There is sound advice in this; an attempt to recover lost balance is generally ineffectual, and a fall backwards may ensue. It is better to devote the brief available moment to an instinctive and, I must own, wholly indescribable act of self-preservation from injury, and to accept the inevitable fall; for it will be found that in nine cases out of ten the shock of coming in contact with a substance so slippery and elastic as ice will result in no hurt, scarcely in discomfort.

We all know the rhyme about the paradoxical rule of the road. Pedestrians are frequently reminded to 'Keep to the right,' and it is desirable that all skaters should recognise the importance of the universal adoption of one or other of these customs.

[1] Tennyson's *Hendecasyllabics*.

[2] *The Eye Witness*, London, 1860.

It is usual to pass 'left arm to left arm,' and if every skater would adopt this practice we should read of fewer collisions, and consequent contusions, than we do at present. There are few men who have not at some time in their lives met a pedestrian on the pavement, when each, uncertain of the intention of the other, executes a 'setting step,' until they ultimately pass with a mutual expression, 'I beg your pardon.' In similar circumstances indecision on the part of unskilful skaters will probably result in a collision, the fall of one or both, and an evident disinclination to an interchange of courtesy. Good skaters, however, seldom collide; an infinitesimal alteration in the poise of their bodies will effect the required change of direction, and avert the apparently inevitable crash.

The most expeditious way to stop the career on ice is to raise the prows of the skates, at the same time bending the knees, and throwing the weight of the body on to the hinder part of the keel of the skates, which will dig into the surface, and produce friction enough to bring the skater to a standstill within a few yards.

But this manœuvre will not be within the reach of anyone whose skates are rounded at the heels. In his case momentum can be quickly arrested by throwing forward the unemployed foot, and bringing it down on to the ice almost at a right angle with the employed skate, at the same time bending the body away from the line of motion; or, as an alternative, he may turn the prows of the skates towards one another, and thus produce adequate friction with the outer edge of each skate.

It has been said that there are thirty-nine articles in the golfer's creed, and that the neglect of any one of them will be prejudicial to an ideal drive from the 'tee.' The young skater will not be invited to subject himself to a strain so severe as this, but the following decalogue may with advantage be engraved on the tablets of his memory:

1. Learn to put on and to take off your own skates.

2. Do not carry a stick, a muff, or anything that will impede the use of the arms while skating.

3. Do not look down more than is necessary to enable you to avoid cracks or any obstacles you may encounter on the ice.

4. Concentrate your attention on the poise and sway of the body rather than on the movements of the legs and feet.

5. Make the side thrust with the whole length of the blade.

6. Do not make a scratching thrust from the toe, but keep the skate as near the ice as possible after the thrust.

7. Keep the feet as near to one another as you can without constraint.

8. Remain as long as you can on the employed foot.

9. Avail yourself of every opportunity of following a good skater, keeping close behind him, and imitating each movement of his body, arms, and legs.

10. Never throw stones on to the surface of a sheet of ice on which you or anyone else can possibly wish to skate.

I have endeavoured in this chapter to lay before the young skater a few maxims and reflections that may help him to keep in check faults to which in the outset of his career he will necessarily be prone, but no dogmatic teaching will be as valuable to him as constant practice and persevering imitation of a good model; for 'segnius irritant animos demissa per aurem quam quæ sunt oculis subjecta fidelibus' is no less applicable to the art of skating than to any mental or physical exercise of this or any other age.

FIGURE-SKATING

CHAPTER III

By T. Maxwell Witham

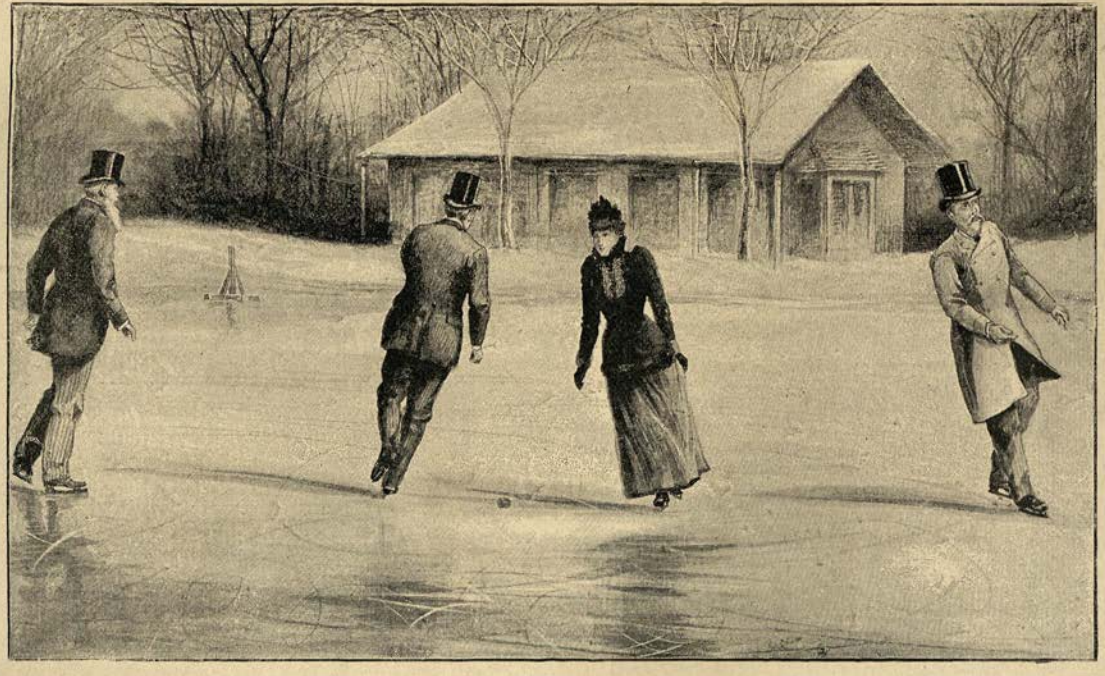
ICE AND THE FORMATION OF RINKS

'The ice bears!' What a thrill runs through the figure-skater at this announcement! Since last year, perhaps even since last year twelvemonth, he has probably made fruitless expeditions to out-of-the-way places where he knows of ponds well shaded from the sun and yet exposed to the north wind; he has perhaps even stood on the thin ice, and for the moment persuaded himself that it was strong enough to bear, but the cracks that fly from him in all directions have convinced him that for to-day at least it is no use attempting to skate, though he consoles himself with the thought that another night's frost is all that is wanted, and going home full of hope tries to persuade himself that the halo which he sees round the moon indicates nothing serious. But alas! in the morning, instead of the longed-for frost, the wind has gone to the south-west, and there is a drizzling rain. Such is the usual ending in England of the longing to get on the ice which attacks figure-skaters with such virulence. But the enthusiast who rushes about in the early days of a frost in search of ice is sometimes rewarded by finding a piece that will bear. It may be only a few yards square, still on it he can practise something of his loved art,

and alone, with no one to watch his evolutions, he is happy and content in trying to conquer some difficulty that had beaten him the year before. Often, in days gone by, I have been up at daylight and off to some sequestered pond that I had noted as being one that would probably bear early, and I well remember the feeling of delight and triumph as I related to some less enthusiastic skater how I had not only skated, but had mastered some difficulty that had puzzled both of us.

What is the reason, it may be asked, that English people with their short and uncertain winters skate so well? In the first place, the really good figure-skaters, when there is any ice, are imbued with a sort of longing to skate which is quite irresistible; they excuse themselves for the neglect of everything in favour of skating on the plea that the frost will probably break up on the morrow; and, in the second place, feeling that their chance of practice will probably be so transient, they work assiduously in conquering the difficulties as they arise. In the same way as a performer on the pianoforte plays a difficult passage over and over again, so the figure-skater repeats and repeats the turn or the twist that will not come easily, and a difficulty overcome is in itself a great delight. It spurs him on to attempt and to eventually conquer some even greater difficulty. Therefore the fact of our winters being so short and the time given to practice so uncertain is actually the cause of our skill, as we feel there is no time to lose and consequently work hard, and the assiduous practice results in improvement, with a corresponding feeling of delight.

The shortness and uncertainty of the frost is the spur we require to goad us on. How many of the accomplished skaters we see would have attained to the perfection they have if as winter approached they could be sure of three or four months' skating? The great bulk of them would say to themselves, 'Oh, I have plenty of time, I will try that horribly difficult turn to-morrow'; but on the morrow the same excuse suggests itself, and no progress is made, and the would-be figure-skater gets tired of the movements he can do and so



A Club Figure: 'Once back and forward'

loses his pleasure in the art because he is making no progress. It may be urged that in Vienna, Sweden, Canada, &c., where three or four months' skating each winter is the rule, there are plenty of good figure-skaters. This is no doubt true, as there are a few either professional skaters or real enthusiasts who create emulation; but I maintain that in proportion to our opportunities we have a far larger number of good skaters than they have abroad in places where skating can be carried on without interruption for three or four months at a stretch.

We are constrained to learn our art on such ice as we may be favoured with; for there is a vast difference in ice. We seldom have a surface in perfection; and perhaps it is as well—as if we always had a perfect surface we should not appreciate it as we do when it sometimes comes after a week's skating on rough ice. The perfection of ice is that which forms on the surface of deep sheltered ponds; it looks as it were dark green, the surface has none of the little inequalities raised up like bas-relief, but is uniformly smooth; and, as this sort of ice is usually formed at a low temperature, it is hard and very tenacious. Ice of this kind an inch and a half thick, if frozen at a low temperature, say 20° of frost, will bear a greater weight than ice nearly double the thickness which is full of snow and air-bubbles, and has been frozen at a comparatively high temperature, say 5° or 6°; and it is honest and friendly: if it means breaking it gives all necessary warning, it cracks and splutters, though that does not matter so long as water does not come up where the cracks show themselves, and even if it does, supposing there is no great weight of skaters on the surface, it is pretty safe so long as the cracks are parallel. When these cracks are intersected by others which in fact break the ice up into little pieces, then it is time to come off; but with ice formed of layers of ice and melted snow, unless there has been and there continues a very severe frost, there is always danger; it gives way without a moment's warning and without a sound. In a thaw this sort of porous ice is like wet blotting-paper. The reckless way in

which people, particularly those living in country places, venture on to the ice covering the surface of deep ponds without any apparatus for getting anyone out in the event of the ice breaking is simply appalling; and it should be a standing rule at every country house where skating is indulged in that before anyone is allowed on the ice the necessary apparatus for saving life shall be provided. This is very simple, and consists of a good long rope, strong but moderately thin, having at one end a heavy ball of wood, and a light ladder. In the event of anyone breaking through, the rope should be taken up in a coil in the left hand by a bystander, and, holding the rope with the right hand, about three feet from the wooden ball, he should swing it round and throw it toward the immersed skater; and it is astonishing how accurately this can be done with a little practice. The great thing is to get the ball beyond the person to be saved. Assuming that the drowning man has clutched the rope, he can hang on to it till a skater pushes the ladder over the hole; and even if the ice is very weak, he can get on to the ladder, and still holding on to the rope he can be drawn, ladder and all, into perfect safety, as although the ice, weakened by the hole, would not bear him if he attempted to stand up, yet his weight being distributed over the length of the ladder will readily support the strain.

When many people are skating on a comparatively confined space, the surface of the ice which was so beautifully smooth to begin with becomes rough like the surface of a file in consequence of the curves made by the skaters constantly intersecting each other. Nature, in the shape of a biting east wind, sometimes in the course of a night smooths this roughness; but, as a rule, the surface of ice which has been much skated on requires to be renovated by artificial means. The renewal of a cut-up surface is popularly supposed to be the most simple thing imaginable. Visitors to the Skating Club constantly say, 'I suppose you flood your ice every night,' not knowing that it is practically impossible to flood a large

area of ice unless such ice has been built up solid from the bottom. When ice has been used by numerous skaters for some time the unevenness may not be perceptible so long as the surface is dry, but becomes evident at once as soon as it is wet. There will be seen a miniature hill comparatively dry and alongside of it a hollow with an inch or even two inches of water; the same thing would occur if a quantity of water were poured on to dry freezing ice. No doubt if we could place water on the old surface of sufficient depth, not only to fill up the hollows but also to cover the hills, and if it could be retained on the surface till it froze solid, a splendid renewal of the surface would be effected; but, as a fact, all ice (except ice built up solid from a hard floor) has water underneath it, and any water placed on the surface will to a great extent drain away underneath the old ice. Although we have hydrants all round the Skating Club Rink by which we can place a large quantity of water quickly on the surface, we have found that this way of attempting to renew it was hopeless, and we have now come to the conclusion that the simplest and best method of renovating a badly cut-up surface is to have it carefully swept, and then watered by means of an extremely fine rose. If the quantity of moisture thus applied is only sufficient to fill up the roughness caused by the skates, a splendid and solid surface will be the result; but if too much water is used, the new artificial surface when frozen will cut up and detach itself from the old surface in slithers on the first passage of a skate.

All ice frozen at a very low temperature is very brittle, and the surface after being skated on develops dry cracks which are very dangerous to the figure-skater, as if, when going at a high velocity on one foot, his skate drops into one of these cracks a severe fall is certain. Whenever these cracks appear they should be filled up with hot water. A flat kettle having a long and very narrow spout should be used for the purpose by a skater who on his skates can run backwards along the crack and fill up the interstice as he goes. It is better to mend

incipient cracks in this way than wait until an actual fissure is formed, as the hot water partially melts and then consolidates the splintered ice. Heavy snow warms and so affects the ice, and when the snow is removed the surface that was very rough before the downfall will be found much improved. And then there is the real thaw for several hours or more followed by a frost. I remember some years ago such a thaw taking place, but the succeeding frost was not sufficiently severe to properly consolidate our ice at the Skating Club, and we all adjourned to the Welsh Harp Reservoir, where we found an absolutely perfect surface to skate upon. It is said that the orange, which is used to mark the centre, was put down and six members began to skate a figure, when so elated was the caller of the figure with the splendid way in which the skate glided over the polished surface that he gave the command 'Six times back and forward,' and everyone launched out on prodigious curves and sped from the central orange in a way to indicate that they would never come back to it again. But however big the curves, the figure named must bring the skaters back to the centre, and at the centre accordingly they eventually arrived, only to find a small boy quietly sucking the orange with apparent satisfaction at having found so luscious a prize on what was apparently a deserted piece of ice!

Snow, although it renders every bush and twig sparkling in the sunlight extremely beautiful, is looked upon by the skater with horror. If, as sometimes happens, a heavy fall of snow covers ice which is not sufficiently strong to bear the weight of sweepers, there is nothing to be done but hope for a thaw. If the snow lies deep on such ice, it prevents its thickening, and the skater has the mortification of remaining without bearing ice, although night after night there may have been sufficient frost to have rendered the ice strong enough had it not been covered up with its warm mantle of snow. But if the snow falls after the ice is strong enough to bear the weight of sweepers, the nuisance then resolves itself into a question of

expense from labour, and this labour may be much curtailed by system, and the use of proper appliances. These consist—(1) of good-sized boxes supported on iron runners, which must be

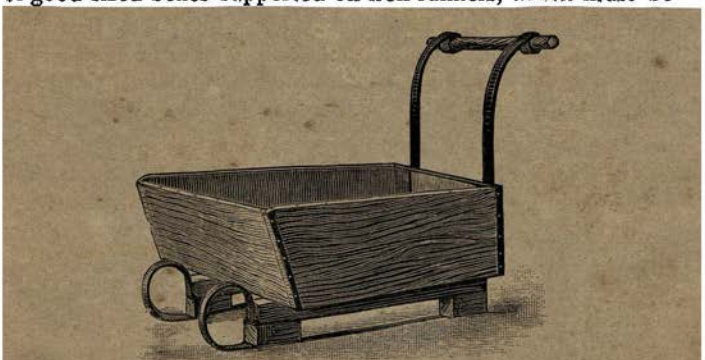


FIG. 1.

rounded at one end to enable the box when full of collected snow to be run up the bank of the pond and tipped over; the back of the box should have a strong handle (see fig. 1);

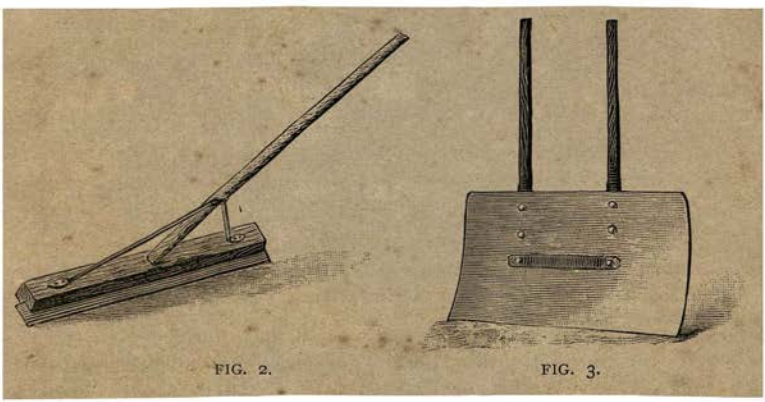


FIG. 2. FIG. 3.

and (2) pushers made by nailing and bracing a piece of board some three feet long and four inches broad to a handle which is set diagonally to the face of the board. With these tools

light snow can be pushed off the ice with great rapidity, and inasmuch as the worker thrusts the instruments, he removes the snow without treading on it, and this is infinitely better than pulling it off by means of scrapers, as then every time a man puts his foot down he leaves a little blob of compressed snow adhering to the surface. Another form of pusher has been found very effective, especially for removing wet snow; it is made of sheet iron $\frac{3}{64}$ inch thick, four feet wide, and two feet deep. To this two handles are rivetted, the handles being long enough for a man to work the pusher comfortably and extending down the sheet iron within six or eight inches of the pushing edge. This leaves sufficient spring in the sheet iron to make it curl when pushed on the ice and so forms a hollow which more readily holds the accumulated snow. Fig. 2 shows the wooden pusher, and fig. 3 the sheet-iron one.

FIG. 4.

(3) Shovels made large and light. (4) Scrapers: these are made very heavy and with a cutting edge, and any inequalities caused by frozen snow, &c. can with these tools be readily removed. They are rather expensive, costing 10*s.* 6*d.* each, and are made for the Skating Club by H. Williams, 52 High Street, Marylebone, but they are very useful and with care will last for years (see fig. 4).

For quickly removing snow or cut-up particles of ice, it is essential that the work should be done systematically. Take, for example, a pond fifty yards broad which it is desired to clear. One man with a birch broom should with a right and left stroke sweep a passage up the centre. It is astonishing how stupid

men unaccustomed to sweeping are at first; they will hold the broom a great deal too upright, which very soon destroys it; and, what is worse, held in this way the ice cannot be properly swept. Men called in to sweep should be taught to hold the broom as parallel as possible to the ice. The cut-up stuff being very light, little force is requisite to remove it, and by holding the broom parallel to the surface sweepers can take a big stroke. To the right and left of the path made by the first man other men should be set to sweep, one following the other; when they have arrived at the end they should come back and take another stroke, and so on till the matter to be removed is swept to either side of the pond. There, if it is bulky, it should be made up into heaps and then with shovels thrown off the ice. Suppose, instead of ice cuttings, an inch or an inch and a half of snow has to be removed, the same tactics are followed. One man with a pusher shoves a pathway up the ice, and then the other men go into the pathway and shove the snow right and left to the side. If the snow is very heavy, two or even three pathways must be made, and the snow placed together in ridges, shovelled into the boxes, and run off the ice. It is very desirable to have the snow taken quite away. . Unless properly directed, the class of men usually employed consider that it is only necessary to sweep the snow to the sides and leave it there, consequently if a thaw supervenes this all becomes water. They should be made to throw the snow as far off the ice as possible.

Long and severe frost frequently breaks up with heavy rain, and all but experienced skaters assume that skating is all over; but as a fact it is then that a most perfect surface exists. The thaw has removed all skate marks and inequalities, and the skater glides about without apparently any effort whatever. There is only one drawback, and that is falling on the wet surface; and, curiously enough, the fear of falling and so getting wet through frequently causes even good skaters to come to grief. If the ice has been frozen at a low temperature, and the weather is fine and mild, the water on the surface will evaporate as quickly

as it generates, and even if there are hollows in the ice which are covered with water, there are always hills which are drained and dry. In the last severe frost (1890-91) skating was carried on at Wormley in Herts and at the Ruislip Reservoir for ten days after everyone had deserted the ice on the London Parks.

Looking at the great success attending the formation of the rink belonging to the Skating Club in the Regent's Park, it seems strange that similar rinks have not been formed. No doubt most country houses have lakes and ponds in their immediate vicinity, but these are not satisfactory. They are as a rule very deep, frequently there are springs in them which render parts dangerous, and they are generally surrounded by trees the dead branches of which are constantly falling on the ice. The soil of the Regent's Park consists of a stiff, yellow-brown clay which when well soaked will hold water like a bottle, and it was assumed that if a puddle bank were placed round the space in the Toxophilite grounds intended for the rink a pond could be readily created. But inasmuch as the ground which is covered with water in the winter has to be used as an archery ground in summer, the puddle banks are left to dry from the time the water is turned off in March till it is again turned on in the following November, with the result that these banks constantly become cracked, and such cracks can only be mended by taking out and remaking the puddle—an expensive process. In making a new rink experience suggests that on the top of the hearting of puddle there should be a perforated tube through which water should be allowed to trickle for the purpose of keeping the puddled clay wet during the summer. Cracks in clay which has not been puddled will mend themselves as the clay swells by contact with water, but cracks in puddled clay can only be mended by remaking the puddle.

The Club rink is 150 yards long by 50 yards broad. Running round the edge just inside the puddle banks is a six-inch pipe having grated openings to the surface every ten or twelve yards. Into this pipe drains which are laid about

every ten yards discharge themselves, but while the water is on the rink the six-inch pipe is blocked by a sluice valve, so of course the surface drains do not then act. When in November the water is turned on, the sluice valve being first closed, the water flows into the six-inch pipe and up the gratings, and so on to the bed of the rink. The bottom of the rink is sloped slightly from the middle to the sides, and this slope is given with a view to more quickly drying the surface when the water is turned off. When full the deepest parts of the rink are about eighteen inches, but in making a new rink it would be advisable to increase the depth to three feet, as although shallow water freezes more quickly than deep in consequence of the water being chilled more readily, the ice does not thicken on shallow as it does on deep water.

Without going to the expense requisite to form a rink which could also be used for archery or lawn-tennis in the summer, it is quite feasible to make a shallow artificial pond at a small outlay. On almost every property will be found a running brook, and this implies that the water is descending from a higher to a lower level. Contiguous to the brook a meadow should be selected round which a clay bank, some two or three feet high, should be run, then two or three hundred yards above the meadow the brook should be dammed back, and a channel cut from above the dam to the meadow which is to be flooded ; the mouth of the channel should be provided with a sluice-gate, in the shape of a board running in grooves similar to the sluices used for drowning the water meadows in Hampshire, and when it is wished to flood the meadow the board can be withdrawn and the water allowed to flow down the channel. When the rink is sufficiently full, the board is again put down, and the water then flows over the dam. A similar sluice-gate should be made at the other end of the rink to enable the water to run off when there is no longer any chance of ice. Being covered with water during the winter does no harm to grass. There is another form of rink, though this must necessarily be a small one, viz. the hard lawn-tennis court ; but a good

deal of capital skating practice may be obtained on such a confined space, and, as water an inch deep freezes readily if the floor which it covers is asphalte, a good many extra days may thus be obtained. A bank some three or four inches high, about five inches broad at the base, and tapering upwards, should be built round the court. This bank is best made with puddled clay, and when completed the water is turned on and left to freeze. If when frozen solid there is every prospect of a severe frost, another inch of water can be added, and then another, as it is best to have the ice as thick as may be; for, if a thaw supervenes while the ice is only an inch thick, it becomes soft, and the skate cuts through to the asphalte.

In these days of easy communication, skaters disappointed of ice in England go abroad for their favourite amusement. It is a popular delusion to suppose that there is ice in Holland when there is none in England; as a fact, there is rarely bearing ice in Holland without our getting the benefit of the same cold wave, and Holland is not a good place for the figure-skater. As in our own Fen country, the Hollanders are essentially speed-skaters, and a figure-skater feels dreadfully 'out of it'; therefore if it is intended to go abroad for figure-skating, the Engadine offers the greatest advantage.

There are three celebrated skating resorts, viz. Grindelwald, St. Moritz, and Davos Platz. The rinks at these places are artificially made, the ice being built up solid from the bottom by means of continuous flooding.

The best time to go to Grindelwald is about the middle of January, as before that period the rink from its situation practically gets no sun, and the cold in the early mornings is consequently unpleasantly severe. A train leaving Charing Cross or Victoria at 11 A.M. reaches Bâle at 6 A.M. the next morning, and thence goes almost at once to Berne, meeting a train to the Lake of Thun, whence a steamer is waiting to take passengers to Därlingen, and from Därlingen it is ten minutes to Interlacken, which is reached about 1.50. From Interlacken to Grindelwald there is no train till 5 P.M., and to

avoid the dreary wait at a time of year when only a few rooms in a small hotel are open, most people proceed at once to Grindelwald by sleigh, which can be ordered beforehand from the Bear Hotel at Grindelwald. The drive takes about two hours, so that Grindelwald is reached about 4 P.M., i.e. in twenty-nine hours from London. The sleigh holds four persons, and costs 25 frs. The only hotel open in winter is the Bear, owned by the Boss family. It is one of the best in Switzerland, and the Boss family are well known to all Swiss travellers as the most pleasant and obliging of hosts. The rink is managed by M. Fritz Boss, who takes great pains in keeping the ice in good order. The cost of boarding at the Bear is nine to ten francs a day, including bath, fire, lights, and four o'clock tea, which is not to be despised after a day in the mountain air. First-class return tickets to Berne available for thirty days cost *8l. 9s. 9d.*, the journey thence to Interlacken about 20 frs., and the sleigh up to Grindelwald 25 frs., or rather less than *12l.* there and back. Second class is about *2l.* cheaper, and very comfortable.

St. Moritz is reached by a three days' journey from London. Starting by the eleven o'clock train a traveller reaches Bâle at 6 A.M. the next morning, as we have seen. Here he has an hour to wait, which gives comfortable time for a wash and a cup of coffee. Soon after seven he starts again, and after jogging across Switzerland in a train which goes about as fast as a rapid 'bus, he reaches Chur (sometimes called Coire) between 1 and 2 P.M. From Chur he has the choice of different ways of proceeding. That adopted by most people is to stop at Chur till the next morning, and then leave by the diligence for St. Moritz. This is the simplest and least expensive plan, but it involves an early start, as the diligence leaves before 6 A.M., and this on a cold winter's morning is not pleasant. A more agreeable plan is to hire a private carriage at Chur and drive on either to Thusis or Tiefenkasten, from either of which places the diligence can be taken the next morning some hours later than from Chur. In either case St.

Moritz will be reached some time between 5 and 7 P.M., unless the weather should be bad.

The most enjoyable way of all is to take a private carriage or 'extra post' (Government posting carriage) the whole way from Chur to St. Moritz. A traveller can then start when he likes and break the journey where he pleases, but it is considerably more expensive than the diligence. At Chur there are two good hotels open all through the winter, viz. the Steinbok and the Lukmanier. At Thusis the Hotel Rhætia is very comfortable, and so is the Hotel Albula at Tiefenkasten.

The drive from Chur to St. Moritz is sledge-work for the greater part of the way. The view is very beautiful, and with fine weather the trip is most enjoyable. But in a wind or snow storm it can be very cold, and at such a time a traveller should be on the look-out for frost-bites. At all times he should clothe himself very warmly. The journey ordinarily takes from eleven to twelve hours, but in heavy snow this is exceeded. The diligence is occasionally stopped by snow, but not often. The leading hotel at St. Moritz is the well-known Kulm, the property of the Badrutt family. It is comfortable in every way, and though not particularly cheap is by no means very expensive. It is generally full, or nearly so, all through the winter; and no one should go there without first writing and making sure of rooms.

Other good hotels are the Hotel Caspar Badrutt, the St. Petersburg, and the Beau Rivage, and in consequence of the increasing number of visitors, fresh hotels are every year being kept open throughout the winter. The Kulm has, however, the great advantage of having the rinks in its grounds. It is also the centre of the social life at St. Moritz, and all the balls and private theatricals take place there.

The rinks, which are literally within a stone's throw of the Kulm Hotel, are three in number; the largest, a little over an acre in size, being an irregular square of some eighty yards side. The other two are about half that area. The ice is

carefully kept, and whenever the weather will allow, i.e. whenever there is no snow, one or other rink is flooded every night, consequently a visitor generally has a new surface to skate on every morning.

There is no fear of not having sufficient frost. St. Moritz is six thousand feet high, and the thermometer usually stands at from 15° to 10° Fahr. from 6 P.M. to 6 A.M. Not unseldom it drops below zero in the course of the night. Besides the rink, there is under favourable circumstances most excellent skating to be had on the lakes which run in a chain from the Maloja Pass to St. Moritz. Under good conditions this is probably the most perfect skating attainable. Exquisite scenery, a clear bright day, and miles of smooth ice so transparent that the stones and fish can be seen yards below. But, like all good things, there is not so much of it as one could wish. A very little wind or a very little snow makes the lakes quite unskateable; and, even without snow, the formation of what are called 'ice flowers' often completely ruins the surface in a few days. Ice flowers arise from the moisture in the air freezing round some point in the ice, and a whole lake will often be found in the morning covered with what at a distance looks like white balls, but which on closer inspection turn out to be clusters and tendrils much like frozen branches of small ferns. They are very beautiful to look at, but very annoying to the skater; moreover, the lake ice after a certain time gets too hard for pleasant skating. Although particularly enjoyable when it comes, the lake skating at St. Moritz is something like catching a salmon, chiefly a question of luck. A visitor who spends the whole winter there will probably between one lake and another get a fortnight or so of it. A traveller who runs out from England for a month's holiday will most likely get none at all.

The school of skating at St. Moritz is a very severe one: great size, and power and perfect quietness and control of the body and limbs are what is aimed at, and the object throughout is rather to do everything that is attempted in the best

possible style than to do a great many different movements moderately.

The unemployed leg is 'kept in its proper place,' and the skating at St. Moritz is probably the strongest and at the same time the quietest and most accurate that exists. The few accomplished *habitués* of the rink have taken the early teaching of the Skating Club as their starting point, and availing themselves of the long period during which they can practise, have perfected it in a really astonishing manner. Perhaps the weak point of this skating is a certain tendency to stiffness and a slight want of pliability ; the skating is, if possible, a trifle too academic, but although the rigid adherence to 'form' in accomplished skaters may detract somewhat from the grace which should always accompany strong and quiet skating, it has the effect of putting young skaters on the right track ; and when we see here in England a young skater who may not be able to skate a great many movements, but who does everything he can skate in perfect form, it will be generally found that he has been educated at the St. Moritz school.

The winter climate of the Engadine is, taking one year with another, certainly fine, but it is by no means so fine as it is supposed to be. Every year a good amount of snow falls, and a heavy fall, say a foot or eighteen inches, not only stops skating while it is going on, but for two or three days afterwards while it is being cleared away. Only those who have tried it know the labour involved in removing eighteen inches of snow from an acre of ice. It will probably surprise many to learn that it will occupy thirty men at least two days. Moreover, the Engadine is by no means windless, and the cold which is most enjoyable when the air is still is almost unendurable when there is a wind, however slight. On the other hand, there is on the whole much good weather ; and a fine winter's day at St. Moritz, with a bright blue sky and the magnificent mountains sparkling with snow from summit to base, with its dry thin air which acts like some ethereal champagne, and a pleasant merry party skating on perfect ice, is something worth living for. A

visitor who goes out for a month or six weeks about Christmas or the New Year will probably have many such days, but he must not expect them all to be perfect.

Davos Platz is the largest and the most get-at-able of the three skating resorts. The journey is the same as to St. Moritz as far as the last station before reaching Chur, Landquart by name; here a change is made to the branch line which goes direct to Davos, which is reached about seven in the evening of the second day after leaving London.

Davos has a much larger number of winter visitors than St. Moritz, the total reaching about 1,000, half being English and half of other nationalities, mostly German. There are four good hotels frequented by the English, viz. the Belvedere, the Buol, the Angleterre, and the Victoria. There are also other large hotels, chiefly frequented by Germans. There is only one rink, which is considerably larger than the largest at St. Moritz, and the ice is kept in capital order. Many years ago the ground on which the rink is formed was purchased by some annual winter visitors, and the ice was formed by pumping water into the rink basin; but this was not satisfactory, and it was decided to form a reservoir at a higher level than the rink, so that it could be supplied with the necessary amount of water for properly flooding it. This, however, was an expensive operation, and the necessary funds were not forthcoming; so the owners of the rink site handed it over to the town authorities, who agreed to make the reservoir. The flood water flows down from this reservoir and is admitted to the rink through five openings, so that the surface is quickly flooded and a lovely surface is the result. At the north end of the rink a pavilion running the whole breadth of the rink has been erected, and this acts as a screen to protect the skaters from the current of air or valley wind which arises in the middle of each day. There is a figure-skating club belonging to the rink, the members of which are mostly English, and here good skating may be seen; but outside this club the skating at Davos is more in the nature of our roller-skating rinks, in which skating round hand in hand is the distinctive characteristic.

DRESS AND SKATES

The members of the Skating Club affect, while skating, the costume of gentlemen dressed for a fête, namely, black coats and tall hats, and such a costume lends itself readily to the style of skating adopted by the club.

On the club rink, where one member may be seen practising individual movements that cannot be done without considerable contortion of the body, there will be seen twenty others skating the graceful combined figures, the performance of which was the *raison d'être* of the club. But there is no doubt that a short coat, knickerbockers, and a low hat form a very comfortable dress for skating in; and although it would look out of place on the club rink, it is the most natural attire for a country pond. Whatever costume be worn, skaters should remember that they are taking strong exercise in cold weather, and that after skating continuously for say twenty minutes and so getting hot, they frequently go and talk with some friend on the bank for five or ten minutes; therefore the underclothing should be warm and thick, or severe chill may ensue.

I feel a natural diffidence in making any observation on ladies' costume, but it is evident for safety's sake that the dress should be sufficiently short to avoid catching the skate when the skater is leaning over on an edge; and from an artistic point of view I think that the border of fur, or the heavy flounce sometimes worn at the bottom of the dress, detracts from the graceful swing which it assumes as the various curves are skated.

There has been a vast amount of inventive power expended on devising different methods of fastening the skates to the boots, but both in England and elsewhere all skaters who seriously go in for perfecting themselves in figure-skating now use one sort of fastening which is known in England by the name of the 'Mount Charles.' It consists of two plates of metal of more or less the same shape as, and rather smaller than, the sole and the heel of the boot, and to these plates are

attached lugs into which the skate-blade is bolted either by means of rivets or screws. The plates are firmly fastened to the sole of the boot by screws, which go through the plates and into the sole and heel of the boot (see fig. 5). This sort of skate necessitates, of course, keeping a pair of boots especially for the purpose of skating, and carrying about while the ice bears a bag large enough to hold both skates and boots. No

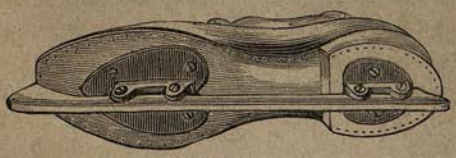


FIG. 5.

doubt there is a certain amount of inconvenience attached to this, but the balance of comfort is in favour of the Mount Charles fastening. The bag in which they are carried can also contain a clean pair of socks (a great comfort after a hard skate), and a duster with which to rub the skate-blades dry. But in spite of the many obvious advantages belonging to a skate permanently affixed to the boot, there are many men who do not like to be bothered with anything but their skates, and to such I

FIG. 6.

should recommend the Barney and Berry. The fastening of this skate, which is made entirely of metal, consists of a heel-clamp composed of two jaws catching the outside, and one jaw the inside of the heel, these being forced into contact with the heel by means of a screw worked by a key, and a toe-clamp which is drawn together so as to catch the welt of the boot by a screw worked by the same key (see fig. 6). A T-plate for the heel

and straps for the toe used to be a common form of fastening years ago, but although effective, it was unsightly. A Mr. Rohonczy of Budapest has patented a fastening, which he calls the Columbus, consisting of a T-plate at both heel and toe; inserted in the heel of the boot is the usual T-plate, and at the toe is a T-plate, having a slot running at right angles to the line of the skate-blade. To adjust the skate the stud is inserted in the T-plate in the heel, and the skate turned so that the stud at the fore end can be placed in the front T-plate, and pushed along the slot. The plates which support the foot are attached to the studs by a screw, and on the underside

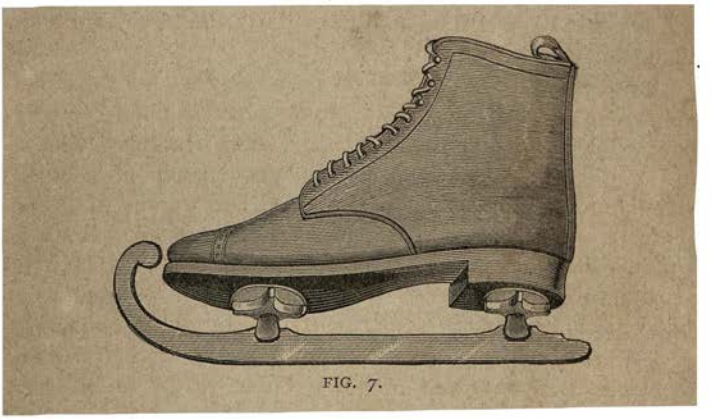


FIG. 7.

of these plates there are flanges, by which the plates can be screwed up tight against the sole and heel of the boot, thus acting not only as plates to support the foot, but as binding nuts, and when screwed tight the fastening is as firm as the Mount Charles, with the additional advantage that, if desired, the possessor of the Columbus can walk to the pond in the boots he is going to use on the ice and then adjust his skates as firmly as though he had carried a pair of Mount Charles in a bag (see fig. 7). Although very ingenious and simple, the Columbus cannot compete in actual utility with the Mount Charles, as, if attached to boots, which are carried in a bag,

the Mount Charles is still simpler, and if used on boots which are sufficiently easy for walking, they are too easy for skating. Properly fitting boots are essential to comfort in skating. They should have a moderately thick sole, flat straight heels and fairly stout uppers, and they should fit tightly, more tightly than would be comfortable in walking. They should lace up in front, and should be so tight over the instep that, when first put on, there should exist a space between the two sides. After skating for ten minutes, the lace can be tightened, and the sides joined without inconvenience ; and if the plan of not pulling the laces tight at first is adopted, the skater will not find his feet ache, as he would if he had laced the boot tightly at first.

Since the year 1881 I have been skating in a pair of wooden-soled boots, and find them far superior to an ordinary boot. They were presented to me by Messrs. Hardman, Gillett, & Co., of Sheffield, who patented the combination of wooden-soled boots and skates. These boots are warm, light, and perfectly rigid, and they look exactly like ordinary well-made boots. The difficulty with them is to obtain a fit. I have known several skaters who have failed to get this, and who have been obliged to revert to the leather-soled boots, but if a fit is obtained, there is nothing equal to them. Messrs. Beasley, of 28 Queen Victoria Street, E.C., make these boots.

English figure-skaters are pretty well agreed that a skate-blade for figure-skating should be the true segment of a circle having a radius of seven feet, although some few accomplished skaters use a skate with a six-foot radius. In approaching the subject of whether a skate-blade should have straight, concave, or convex sides, I feel I must treat it tenderly so as not to offend people's prejudices ; but I may say that the really good skater can, after a little practice, skate equally well on any of the various sorts of skates in vogue. The question to decide is what sort of skate will enable a skater to perform the different movements of which figure-skating consists with the

least expenditure of energy. And, first, as to the sort of edge to be used. Formerly, everyone used acute-angled edges. About the year 1875 all the members of the Skating Club went to the other extreme, and had their skates ground to obtuse-angled edges; but that lasted only a few weeks, after which they tried right-angled edges, and this happy medium seems now to hold its own. In figs. 8, 10, and 9 illustrations are given of acute, obtuse, and right-angled edges.

FIG. 8. FIG. 9. FIG. 10.

I dismiss the acute angle as quite unsuitable for figure-skating; it is so sharp that it sets up great friction by cutting in too deeply, and yet almost all the common sort of skates are ground to an acute-angled edge.

The obtuse-angled blade errs in the opposite direction. Used by a heavy man on soft ice, it is delightful, but if the ice is hard there is a very unpleasant feeling of insecurity attached to its use. At the same time there is no doubt that its form minimises friction, and its blunt edge enables difficult turns to be accomplished with less danger of 'catching' the ice in making the turn; but even its most ardent admirers admit that, for the first ten minutes or so, if on hard ice, they experience a feeling of insecurity which is induced by the blunt edge. Personally, I always skate with right-angled edges and take care to have them sharp, as I believe that the confidence which sharp edges give, and the extra power of striking off, more than compensate for the little extra friction which is consequent on the cutting in of the sharp edge. The right-angled edge is a happy medium between the acute and the obtuse, and is the form of edge generally used by good figure-skaters. The great object to be attained in constructing a skate-blade is to make it of such a form as will reduce friction to a minimum. A skate having a curvature of nine-feet radius would do this in consequence of the distribution of the skater's

weight over a large bearing surface, but then turns and loops would become very difficult. Obtuse-angled edges are used for the same reason, as although the bearing surface is not increased, the blunt edge cuts in very little, and consequently sets up but little friction. The Swedes and Norwegians, who in the last few years have taken to figure-skating of an acrobatic character, have their skates not only ground to a five-foot radius, but increase the pivoting power by having the sides made convex.

Some years ago Captain Dowler, a member of the Skating Club, took out a patent for a skate having concave sides. His idea was that when the skate was inclined from the vertical, as in running on a curve, the concave side would bring a greater portion of the length of the blade in actual contact with the ice, thus increasing the bearing surface and consequently diminishing friction without interfering with the vertical curvature at the lower edge, by which the necessary amount of pivoting is obtained. The Dowler blade has been, and is, used by many thousands of skaters. With a 7-foot radius the side concavity should be a radius of 16 feet. At first the blades were made with the thinnest part in the middle, but I found that if the thinnest part were put back an inch or an inch and a half, the working of the skate was much improved; and I also found that, in consequence of the end of the blade being thicker at the lower side than in the middle, and being ground to the same thickness along the entire length of its upper side, the cutting edge of the toe and heel was much more acute than in the middle, in fact so acute that the cutting in while taking a vigorous stroke sent up a shower of splintered ice. To obviate this I suggested the grooving away of the blade about half an inch from the edge at the toe and heel, so as to enable the cutting edge to be made the same angle along the whole length of the blade, and since 1881 Dowler blades have been constructed with the above improvements (see fig. 11). I always skate with Dowler blades having right-angled edges, as I find I can skate every movement on them as well as on a

straight-sided blade, and with much less fatigue. The angle at which a skate is inclined in the act of striking is much greater than when travelling on a curve, consequently with the Dowler blade a large portion of the edge comes into actual contact with the ice at the moment of striking and a vigorous push-off is the result ; and this, combined with the minimum of friction, is the reason why figure-skating on Dowler blades is less fatiguing than on straight-sided blades. I have seen men, who from having rather weak ankles could only skate well enough to be classed as second-rate skaters, spring at once into the first rank through the use of Dowler blades : but, as against these examples, I have known skaters who could not skate nearly as well with them as with the ordinary straight-sided blade. It is a good plan to have two pairs of blades, and have them

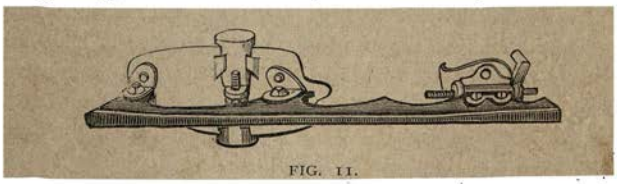


FIG. 11.

bolted to the foot-stock by means of bolts and nuts ; when one pair gets blunt it can be easily removed, and the other pair substituted. To keep the skate-blades free from rust they should be rubbed quite dry, and then vaseline applied with a stencil brush, or better still with the finger ; and it is well to remember that any grinding or other repairs which may become necessary should be attended to as soon as the frost breaks up, and then the skates and boots may be put by and they will be ready for the next frost. Of the London skate-makers the names of Messrs. Walter Thornhill & Co., 144 New Bond Street, Messrs. Hill & Sons, and Messrs. Underwood, Haymarket, and Messrs. Hennig & Co. of Coventry Street, Leicester Square, may be mentioned as makers of good skates.

In walking and running we put one leg in advance of the other, but in skating we do nothing of the sort, hence the would-be skater has to unlearn that which he had considered the only method of progression ; and that there is considerable difficulty in this is apparent from the way in which beginners *will* put one leg in front of the other, although they are told it is an impossible way of progressing on skates. In walking and running we put to the front first one foot and then the other, and throw the weight of the body on to it, but in skating we balance on one foot and progress by shoving with the other. The first lesson in balancing should take place in a room. The novice should put on his skates, and walk about on the floor until he find he has overcome the tendency of his ankles to give way. He should then stand with his feet parallel, and leaning his weight on say the left he should go through the motion of shoving off with the right. This is accomplished by turning the right toe a little out and pressing on the inside of the skate, and then lifting it up with a sort of kick in a slanting direction backwards. (See fig. 12, where the position of the feet are shown.) At first, in making this push or kick or shove off with the right, the beginner will find a good deal of difficulty in balancing on the left, but ten minutes' practice will overcome this. Every time, after lifting the right leg in the push off, he should bring it back to the other foot in the parallel position in which he began the practice ; when he finds that he can do this semblance of striking with one foot and can balance on the other, he must work the other leg, striking with the left and balancing on the right, and when he is pretty confident on this foot he should strike and balance on alternate feet. By going through this drill in a room, the novice overcomes the tendency to put his foot forward as in walking, and as the putting

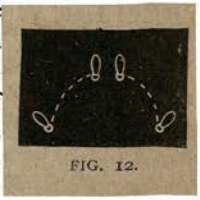


FIG. 12.

forward of the foot is the cause of his inability to glide on skates, he will when he gets on to the ice be able in a very short time to skate straight forward. Figure-skating, although executed with the feet, is in reality effected by getting the body into the position which will enable the feet to be turned in the desired direction. As a rule the novice gives no attention whatever to the position of the body, but is thinking only of the particular turn or twist which he wants his feet to effect ; he, in fact, tries to make his feet turn his body, as he is ignorant of the fact that the true way of skating is to make the body turn the feet. In 'A System of Figure-Skating'[1] minute instructions are given as to the position which the body should assume before and after skating the various turns and changes of which figure-skating is composed, and I am acquainted with an accomplished figure-skater who declares that he learned all he knows by carefully studying the directions given in that book, and then practising the positions in a room before a cheval glass. Of course actual practice on the ice is essential, but it is obvious that an immense amount of false practice may be saved, and hundreds of falls avoided, if the beginner will take the trouble carefully to note the directions as to the position of the body given in the instructions for acquiring turns, and practise them assiduously before going near the ice. For example, all turns composed of a change from one edge to another edge are capable of being skated with the most consummate ease if just before the turn is skated the body of the skater is so turned, in the direction of the new curve which will result from the turn, that no alteration of the position then becomes necessary. A novice having acquired the power of skating an outside edge, is fired with the ambition of accomplishing a three. He knows that an ordinary three is composed of a curve of outside edge, that to make the turn the skate has to be reversed, bringing him on to an inside back, and if he has never been instructed he will proceed on the outside curve ; and then, his body being retained in the position for that edge, he will make a spasmodic effort to twist his skate

[1] Horace Cox, Bream's Buildings, E.C.

round, with the result that he will probably fall. Now watch the adept: just previous to the turn the whole body from the hip upwards is gradually turned so as to be in the position suitable for the curve on which he will find himself after the skate is reversed; and the result is that the turn is effected with the most ridiculous ease and with the most perfect certainty. Assuming that the novice has acquired the facility of going straight forward, he will find that he is travelling on either foot in curves, that the curve on the right foot tends to the left and that of the left foot to the right, and for simply travelling straight forward the body is kept full front; but these curves indicate that he is travelling on an edge, and as this is the inside edge which is frequently used in figure-skating, he should take three or four strokes to get up impetus, and then poising himself on one leg, say the right, and turning the body from full front to a sideways attitude (right shoulder forward), he should endeavour to come round on the edge a complete circle (see fig. 13). The unemployed leg should be kept behind and turned out at nearly right angles, and toe slightly pointing downwards. The circle completed, he should again take two or three strokes and complete the circle on the left; this time, of course, the body should be turned sideways by throwing forward the left shoulder; and then the intermediate strokes should be eliminated and a whole circle on either foot skated alternately, and continued until the circles are made true and without effort. Curves on the inside edge come with apparent facility to the novice, as the acquisition of straight-forward skating has educated him, and the unemployed leg being on the side to which he is leaning naturally gives the body a list that way, and inspires confidence, as in the event of too much inclination it can, by being put down, be made to act as a prop. But although it is comparatively easy to skate these circles with the knee bent, the body full front, and the unemployed leg stuck out at the side ready to be used as a prop if needed, it is a very different thing where the proper attitude is assumed. As soon as the skater has

made the stroke by pushing off with one foot and is poised on the other, the knee of the employed leg must be straightened, the body turned sideways, and the unemployed leg

FIG. 13.
Forward inside edge.

carried behind close to and almost at right angles to the employed (see fig. 14). The novice will find circles in this position skated on the inside edge much more difficult, but

it is far better to take the trouble to learn to assume the correct attitude from the very commencement (see fig. 15).

In olden days, when everyone used square-heeled skates, a stoppage was effected when desired by elevating the toe part of one or both feet and so digging in the heel; but with the modern skate, which has rounded heels, this is no longer practicable, and if it be necessary to stop suddenly the skater turns sideways and places one foot in front of the other on the inside edge at right angles to the line of progress. But an absolute stop is seldom necessary, and a deflection to the right or left will generally be all that is necessary. To effect this the skater, keeping his feet parallel, leans to the side to which he wishes to go and the skates run round in a curve.

FIG. 14.

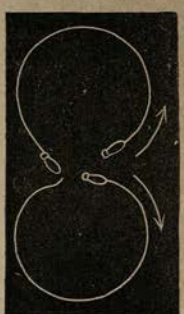


FIG. 15.

Hitherto all progress has been made in a forward direction, and as figure-skaters progress as much backwards as forwards, it is necessary to learn to skate backwards.

In going forwards the skater has to repress the instinct which naturally causes him to put either foot to the front as in walking. In attempting to skate backwards the same trouble arises, and the natural way, learned through walking, is almost inevitably attempted by the beginner; but the proper method is to stand with the feet moderately close together and with the toes turned in; then a shove with say the right foot should be effected, and the body balanced on the left until the force of the stroke is expended, when the right should be placed alongside of the left, which now becomes the striking foot, and the stroke effected the glide is made on the right, and so on. See fig. 16 for the position of the feet at starting. At first the beginner will find some difficulty in

FIG. 16.

skating backwards, caused principally by his fear of leaning sufficiently back on the backward glide, but a little practice, with short glides to begin with, will soon give him confidence.

FIG. 17.
Back inside edge.

He should then take two or three strokes, and endeavour to come round a whole circle on the right leg. Hitherto he has been going with his body square to the line of progress; he

must now try to turn sideways by throwing back the left shoulder, turning out his left foot and knee, and keeping the unemployed foot rather behind the right; the knee of the employed foot should then be straightened, and, looking over the left shoulder, he should complete the circle (see fig. 17); and the same practice should be given to the left foot, and then a whole circle on either foot without any intermediate strokes should be tried (see fig 18). An eight formed of alternate strokes of inside edge backwards is very difficult, as the stroke from one to the other foot is feeble, and the beginner must not feel depressed if he fails to accomplish it to his satisfaction, as it is a figure that the very best performers find a difficulty in skating.

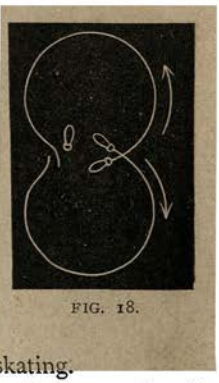


FIG. 18.

I now come to a movement that has always been considered the greatest difficulty a beginner has to contend with, viz. the outside edge; and, perhaps, more directions and instructions treating of this movement have been written with a view of rendering its acquisition easy, than of any other difficulty connected with the art. I have successfully taught it to hundreds of people, and my method is to take my pupil's hands sideways, holding his right hand in my right hand and his left in my left, the right hands being underneath, he being on my right. I then tell him to turn in his toes and walk like a pigeon with one foot crossing the other (see fig. 19). When he has walked a few dozen steps in this way and has become accustomed to the unusual position of walking with the toes turned in, I get him to slide a few inches on the foot which is placed in front, and direct him to at once take up the foot that is behind and gradually bring it forward so that it in its turn may be placed across and in front of the foot that has just finished the glide. The right

FIG. 19.

foot being put down with the toe turned in across and in front of the left necessitates its being put down on the outside edge; by gently forcing the learner to the right he must make a curve to the right and consequently on the outside edge, and when the left foot is crossed over, by gently pulling him to the left he must make a similar curve of outside edge to the left (see fig. 20). One of the great difficulties is to get the pupil to turn in his toes and boldly put one foot across the other. The habit of turning the toe out is so confirmed that at the moment of putting down the foot there will be a spasmodic attempt to turn it out instead of in. Ten minutes' careful attention will make the learner so confident that he will be able to dispense with help and make small feeble glides on his own account, and these with practice will soon get larger and bolder. If a beginner has no one who is willing and able to hold his hands in the way above described, the best way of acquiring the outside edge is by taking a few vigorous strokes, and then, bringing his feet alongside each other, allow them to glide round, so forming a large circle. If the direction in which the circle is made is to the right, the right foot will be on the outside edge and the principal support will come from the inside, but it should be the study of the learner to get his weight on to the right and gently lift up the left. At first he will be able to go only a very little way on the right, but he can bring forward the left and place it in front of the right on the inside edge and take up the right; and then when he is steady on the left again he must put down the right, and so on (see fig. 21). When he can do this (which is called 'treading

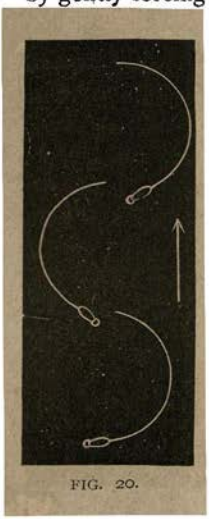


FIG. 20.

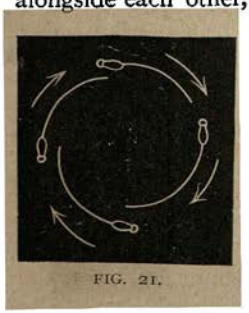


FIG. 21.

the circle') fairly well to the right, he should reverse the order of going and do a similar treading the circle to the left. As he progresses he will find that the glides on the outside edge will gradually become longer, and he should not be satisfied until he can finish up each treading the circle with a whole circle of outside, taking care, if on the right leg, to throw the left shoulder back, and if on the left, the right shoulder back. This throwing back of the shoulders places the skater in a sideways position which is the correct one for any edge, and he should now make an outside curve with either foot alternately in the form of an eight (see fig. 22). Now the manner in which these alternate strokes of outside edge are skated is all-important; if they are from the commencement executed in the proper manner and in correct attitude, the learner is on the right road to becoming a graceful skater. To attain an easy and graceful movement on the outside edge it is necessary that each curve should be true from start to finish, the true segment of a circle whether large or small, and this can only be attained by placing the foot which is about to describe a curve, parallel with the foot which has just finished one; for instance, the left foot at the end of a curve made by the right must be placed parallel to it, and so allow the body gradually to take the inclination and the skate the consequent curve in the opposite direction. At the end of a curve, say on the right, when the left is put down parallel to it in order to become the gliding foot, the right is turned over from outside to inside edge, from which the push-off is made. Ninety beginners out of a hundred, after making a curve to the right with the right foot, throw the balance abruptly on to the left, which is usually placed at right angles to the right (see fig. 23), and this has the effect of entirely destroying the grace and swing which should characterise the outside edge. Perhaps

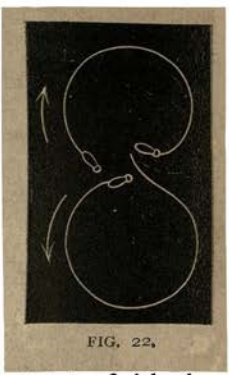


FIG. 22.

the best way to instruct the learner in the right method is to take his hands sideways and start as in fig. 24. Starting on the right with the skate pointing to the west, the curve will end with the skate pointing to the east. Now let the toe of the left foot be turned *in* sufficiently to enable it to be placed parallel to the right, and the new curve to be made by it will be continued in an easterly direction, coming round by the north till it finishes with the skate pointing west, and so on. By practising this parallelism of the feet in going from a curve on one foot to a curve on the other, a graceful 'swing' is

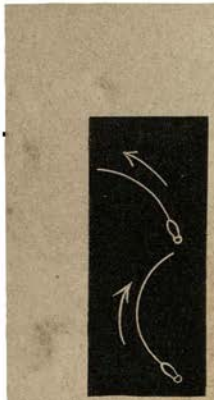


FIG. 23.

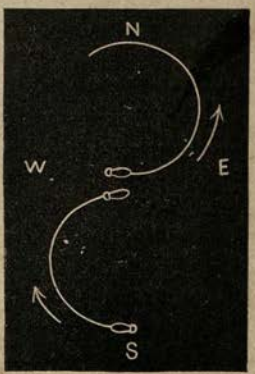


FIG. 24.

attained, which can be effected in no other way. Of course great attention must at the same time be paid to the straightening of the knee as soon as the push-off is effected, and also to the sideways attitude of the body. Most beginners, when they find themselves actually on an outside edge, forget all about the sideways position of the body, hold their heads down and look at their feet. From the very beginning the learner should endeavour to hold his head upright and never look at the ice in the neighbourhood of his feet. It is bad form to do so, and there are some movements, which I shall describe later on, that are rendered quite impossible unless the head is kept

upright and turned in the direction of the curve to be described (see fig. 25).

If the beginner has acquired the power of skating the out-

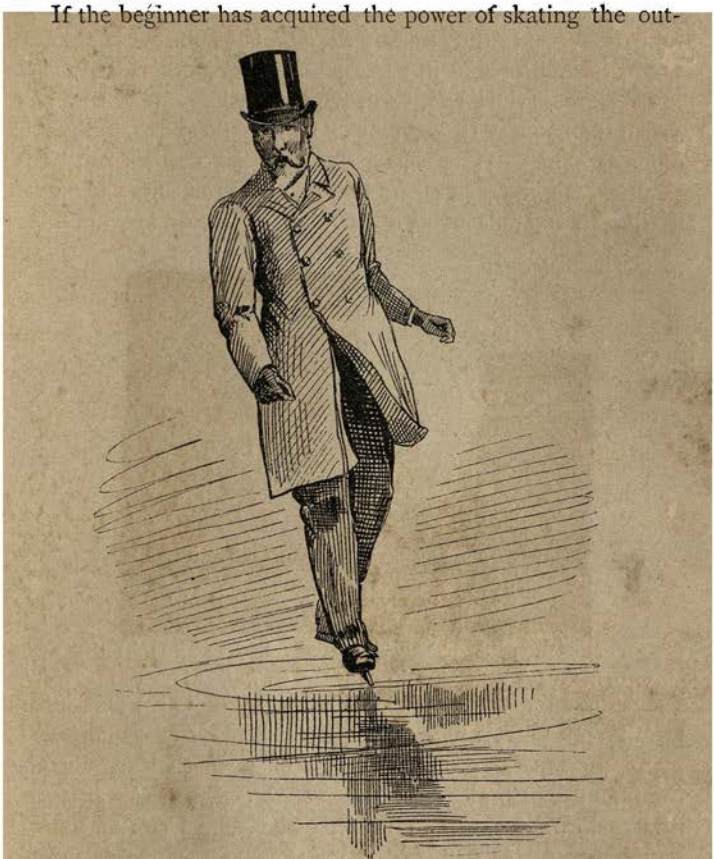


FIG. 25.
Forward outside edge.

side edge by the method of turning in his toes and crossing his feet, he will have no difficulty in skating the forward cross roll, which is simply the outside edge on either foot; but instead of

turning the foot over from the outside to the inside in order to strike, the skater crosses his feet and makes the stroke from the outside of the skate which is behind. This is not so powerful a stroke as in the ordinary outside, but by carefully attending to the position of the body, large and vigorous curves are possible which can be skated in the form of an eight (see fig. 26). When the balance is very perfect two whole circles instead of one can be skated; of course the second circle will be rather smaller than the first (see fig. 27). We have now arrived at the last of the four edges, viz. the outside back. In teaching

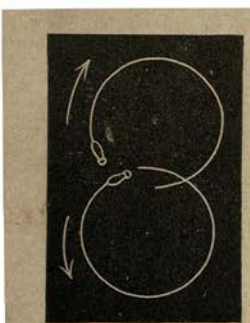


FIG. 26.

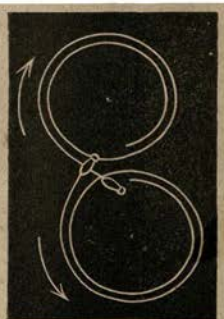


FIG. 27.

anyone this movement, I adopt the same plan as in the outside forward; I take the pupil's hands, not sideways this time, but with the pupil facing me, and I direct him to turn out his toes and walk backwards, placing one foot behind and across the other (see fig. 28). When he can walk without catching the toe of one skate against the heel of the other, I cause him to glide a short distance first on one foot and then on the other. The glides are very short at first, but they soon get longer as greater confidence is acquired (see fig. 29). The beginner must then try to step backward and glide in this way without assistance. If a learner can get no one to assist him by holding his hands, he should take two or three strokes backwards, and then putting his feet together run round on a large

circle. On this circle his foot which is next the centre will be on the outside edge, and the other, or the outside foot, on the inside edge. He must learn to hold himself upright, and try to ease off the weight of the body from the outside foot, even to taking it off the ice, if he feels well balanced on the other. There is still another method of learning the outside edge

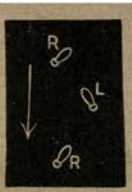


FIG. 28.

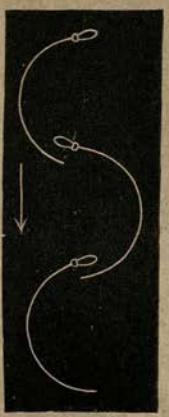


FIG. 29.

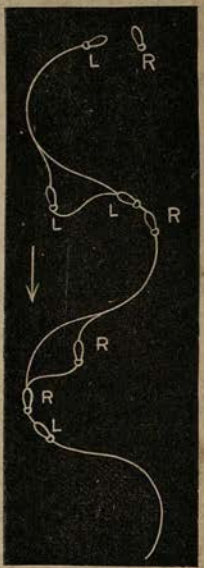


FIG. 30.

backwards which I have found effective, and I give it, as it is also a pretty and graceful figure of itself. Let the skater stand as if starting to skate in the ordinary way backwards, and when the push-off has been made by the right foot, instead of being brought parallel to the left it is allowed to follow it in the curve which the left foot, being on the inside edge, will naturally assume, so that the right heel is close to the left toe and the

right foot is on the outside and the left on the inside edge. When half the circle has been completed, the left heel is turned out on a siding as it were, the object being to get the

FIG. 31.
Back outside edge.

foot at more or less right angles to the right so as to effect a push-off, which being accomplished it follows the right, and so on (see fig. 30). Although in this figure the foot which follows

is on the outside, the real power of leaning over is gained from the inside edge of the foot which is leading, but the fact of making a curve in the direction which is, in fact, on one of the feet, outside edge educates the skater and gives him confidence. In the back outside, as in the other edges, the body must be turned sideways, if on the right foot by throwing the left shoulder back and looking over it, and if on the left foot by throwing back the right shoulder (see fig. 31), and whole circles in the form of an eight should be skated (see fig. 32). The back outside cross roll skated in the form of an eight is a pretty movement, but difficult to keep large, as the stroke from

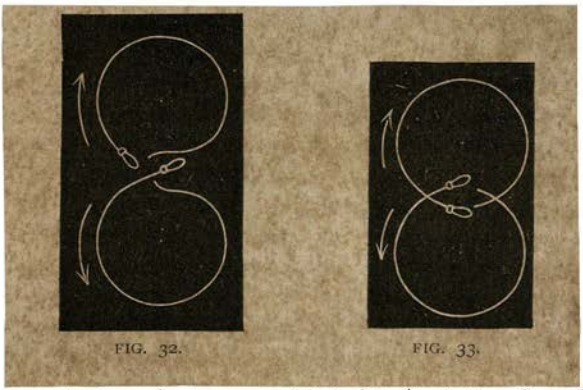


FIG. 32. FIG. 33.

the cross backwards is somewhat feeble; but the size of the circles can be increased by great attention to position and balance (see fig. 33).

A very pretty method of going from forwards to backwards, or from backwards to forwards on an edge of the same character, is known as a 'Mohawk.' It is effected by spread-eagling the feet, and comes with facility to those who are able, naturally, to turn out their feet sufficiently to get into the spread-eagle position (which is that of the feet turned out with the heels together), while it is capable of being acquired by those to whom this is a difficulty by careful attention to the position of the body at the moment of change. For the forward

Mohawk the skater proceeds, say on a curve of right outside forward, and when he is about to effect the change to left outside back he thrusts back his left shoulder and brings forward the left leg in front of the right; then turning the toe out as much as possible swings it round and behind the right and places it down on the outside back, and at the moment it touches the ice he takes up the right. To effect the change, the left shoulder has been thrust back, but the instant the left is put down the right shoulder must be turned back into the proper position suitable to outside edge backwards (see fig. 34).

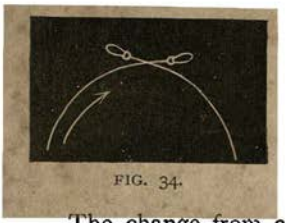


FIG. 34.

The change from a back to a forward edge is executed in the same way, only in this the unemployed foot is thrown behind the employed and then swung round it and placed in front. The outside Mohawks are more difficult than the inside, as with the inside the feet have to be turned out far less than with the outside. It will be found that in executing a Mohawk the body is turned in the same way and put into the same position as in doing a bracket; in fact, a bracket has been well described as a Mohawk on one foot. It may be said, indeed, that a Mohawk consists of a bracket carried only as far as the actual turn; at the moment of making the turn the other foot is put down on a 'drop' and takes up, as it were, the second half of an inside bracket. The outside bracket may therefore be called the 'corresponding turn' to the outside Mohawk. Now it will be easily seen that the forward outside Mohawk is only one of a class of steps which consist in changing the direction forward to backwards, or backwards to forward, at the same moment as the feet are changed, while a turn is the means of a change of direction without a change of feet, and it will be perceived that such a step can be made to correspond to every turn; that is, each turn can be carried on just as far as the cusp, and the other foot can be put down on a 'drop' at the moment the cusp is being made. As there are four turns from each of the

four edges—sixteen in all—so there will be sixteen of these steps. Take those from the outside forward. The ordinary Mohawk has been already described, but it is possible to go from outside forward to outside back by bringing the left shoulder forward instead of backward and rotating the body in the direction of the ordinary three. At the moment when what would be the cusp of the three is reached the unemployed foot is put down on the outside back; in practice this can hardly, if at all, be effected without a jump, as the toes have to be turned in at an extremely sharp angle just as in the ordinary Mohawk they have to be turned abnormally outward. It is proposed to call this step a cross Mohawk, from the way in which the toes have to be crossed (see fig. 35). The forward

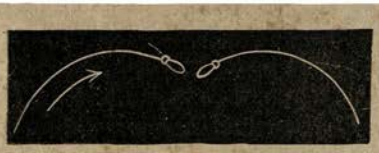


FIG. 35.

FIG. 36.

outside cross Mohawk is therefore the corresponding step to the ordinary three.

But, starting as before from the outside forward, it is possible to put the other foot down not on the outside but on the inside back. This step it is proposed to call a 'Choctaw,' and here again it is possible theoretically at least to get to the inside back by a revolution either to the right or to the left. Starting on the right foot, a revolution to the left will clearly have as its corresponding turn the outside counter—that is, the direction of rotation is the same; but instead of continuing the curve on the outside back after the cusp, it is taken up on the drop which puts the other foot on the inside back. So, again, if the direction of rotation is to the right, the corresponding turn is the forward outside rocker. Here, again, when the rotation is to the left, the toes have to be turned out, though not so far as in the Mohawk (see fig. 36); while in moving to the

right they have to be turned inwards. The latter may, therefore, be called a 'cross Choctaw' (see fig. 37).

These are the four steps by which a change may be made from outside forward directly to an outside or inside back. It is obvious that similar steps are possible from all the other edges. In each case one direction of rotation will cause the toes to be turned outwards, the other inwards. The simplest classification seems to be to call all the latter class the 'cross' steps. But it will be found that it is not the case that the Mohawks will always correspond to brackets and cross Mohawks to ordinary threes, Choctaws to counters and cross Choctaws to rockers. A table of the sixteen steps is given on p. 83, which will show the corresponding turns. As a drop always implies a different edge, it is obvious that a Choctaw and a cross Choctaw, where the edge is changed, must always correspond either to a rocker or a counter, where it is not changed; and, conversely, a Mohawk or a cross Mohawk must always correspond either to a three or a bracket.

FIG. 37.

All the cross strokes are extremely awkward, and can hardly be regarded as anything but skating curiosities; it is not at all probable that they will ever win favour in practical skating. There seems, however, to be no reason, beyond the difficulty of skating them, why the forward Choctaws should not, like the Mohawks, take their place in the regular répertoire of first-class skaters. It will be noticed that it is only by means of these steps that inside and outside back threes, emanating from and ending at the centre, can be skated.

Four of these, Nos. 6, 8, 13, and 15, are already quite familiar and easy, being nothing but the ordinary strokes from inside and outside back to inside and outside forward. It is only by analogy and as a matter of system that they are to be called Mohawks and Choctaws.

No.	From	Corresponding Turns	Name
1	Inside forward to inside backward	Forward inside three	Inside Mohawk
2	Inside forward to inside backward	Forward inside bracket	Inside cross Mohawk
3	Forward inside to back outside	Forward inside rocker	Inside Choctaw
4	Forward inside to back outside	Forward inside counter	Inside cross Choctaw
5	Inside backward to inside forward	Back inside three	Back inside cross Mohawk
6	Inside backward to inside forward	Back inside bracket	[Back inside Mohawk]
7	Back inside to forward outside	Back inside rocker	Back inside cross Choctaw
8	Back inside to forward outside	Back inside counter	[Back inside Choctaw]
9	Outside forward to outside back	Forward three	Forward cross Mohawk
10	Outside forward to outside back	Forward bracket	Forward Mohawk
11	Outside forward to inside backward	Forward rocker	Forward cross Choctaw
12	Outside forward to inside backward	Forward counter	Forward Choctaw
13	Outside backward to outside forward	Back outside three	[Back Mohawk]
14	Outside backward to outside forward	Back outside bracket	Back cross Mohawk
15	Outside backward to inside forward	Back outside rocker	[Back Choctaw]
16	Outside backward to inside forward	Back outside counter	Back cross Choctaw

THE FOUR TURNS AND THE FOUR BRACKET TURNS

The correct attitude and poise of the body in skating the four edges has been insisted on because then the curves are skated with ease and grace; but now that turns have to be accomplished, the correct position of the body has not only to be attained to ensure grace and swing, but because turns cannot possibly be executed unless the position of the body is the correct one for the particular turn to be made.

Turns other than rockers and counters consist of a change of direction by means of a half-revolution, and this is effected by going from one edge to another and a different edge on the

same foot, without changing the inclination of the body. For instance, starting on the outside forwards, the making a half-revolution brings the skater on to the inside back ; from inside forward the turn places him on outside back ; from outside back the turn places him on inside forward, and from inside back the turn places him on outside forward.

When a single turn only is used these figures are called threes, and when the figure begins with an outside edge whether forward or backward the edge is not mentioned; but where the figure begins with inside the word inside is added. They are therefore called forward three, inside forward three, back three, and inside back three ; and the name of three has been given to this figure from the mark resembling the figure three made on the ice when skating it. The forward three is the one which the novice as a rule begins by learning, and assuming that he can skate a forward outside edge and a back inside edge there is no great difficulty in joining these curves by means of a turn ; yet if the skating in the public parks be observed, the number of skaters who can execute a three properly is found to be very small. I have seen men attempting to skate a three and failing hopelessly ; and they have confessed that they have tried for years to accomplish it and have never succeeded, and yet with two or three hints as to how the body from the hips upwards should be held I have in five minutes taught them more than they had hitherto learned in as many winters. In the curves of which threes are composed the body of the skater is inclined towards the inside of such curves, but inasmuch as every three is composed of a curve on a forward and a back edge, or a back and a forward edge, and as the body must accommodate itself to the change of the order of going induced by the turn, it is obvious that great attention must be paid to the position of the body just previous o the turn itself, otherwise it cannot be made, or if made the resulting curve cannot be held. In other words, it must be strongly impressed upon the learner that the body must turn the skates, and not the skates the body.

A person who has not been taught almost invariably tries to

skate a forward three by proceeding on the outside edge forward, and keeping his body in the same position he spasmodically jerks his heel round, but the body not having been turned will not follow, and he comes to a standstill. Now watch the

FIG. 38.

adept. He starts say on the right leg on the outside edge, his body is sideways with the right shoulder forward. Just before he is about to make the turn he throws the weight of the body on the toe part of the skate, and at the same time it will be

noticed that the left shoulder is gradually brought forward, and this reverses the whole of the previous position of the body from the hips upwards, and has the effect of bringing the toe in on a momentarily smaller curve, which causes the skate to turn without any effort. As soon as the turn has landed him on the back inside edge, the left shoulder, which has been brought forward for the purpose of enabling the turn to be effected, is thrust back, and the skater must straighten his knee and lean well back on the heel of the skate, turn out the toe of the unemployed foot (which toe must also be pointed slightly down), and look in the direction of the curve he is describing (see fig. 38). The mark left on the ice is shown in fig. 39 At the moment of making the turn a considerable amount of rotation is set up, in consequence of which the skater finds a difficulty in making the tail of the three large. The screwing round of the body, by bringing the left shoulder forward before the turn is attempted, eliminates a good deal of this rotation; but even with this help the skater cannot make the tail of the three large unless he gets well on to the heel of the skate as soon as the turn places him on the back inside edge, and also unless he turns out the toe of the unemployed foot, as this movement has the sympathetic effect of keeping the left shoulder from coming forward. It is a common fault with beginners to make the turn before they have fairly attained a balance on the edge with which they start, consequently rotation is set up from the commencement. The first curve of a three should be held for at least a yard and a half to two yards, as this enables the body to be gradually turned round, so as to effect the change of direction with as little rotation as possible. Even when a beginner can skate threes fairly well on either foot, he will still find a difficulty in going directly from the tail of a three, say on the right foot, to the forward curve commencing the three on the left. To do this easily he must, at the

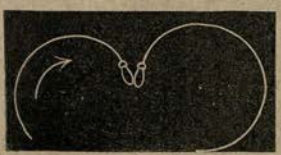


FIG. 39.

moment of placing down the left foot, keep back his left shoulder, and of course the right shoulder if on the left foot, as the sideway attitude and position adopted for back inside of one leg is suitable to the outside forward on the other. It is very good practice to skate threes in a straight line, and to do this at all the shoulder corresponding to the unemployed leg must be kept back (see fig. 40). This mastered, a lump of snow, or an orange,

FIG. 40.

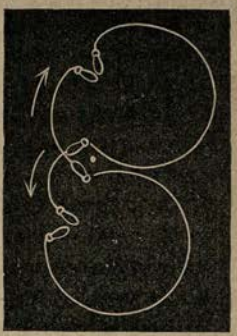


FIG. 41.

should be placed on the ice, and threes skated to it, until perfect steadiness and accuracy are attained (see fig. 41); and the beginner from the very commencement of this practice should strive to hold himself upright, keeping his eyes on a level with the horizon and straightening the knee as soon as the stroke is effected. The grace of a good deal of what is otherwise good skating is spoilt by the way in which many performers throw about their arms in making the various turns and changes. Of course the arms are a great assistance in balancing, but a young skater should try to use them as a help to balance as little as may be. The correct attitude for

the arms in skating the threes is to have the arm corresponding to the unemployed leg slightly bent at the elbow, and the hand turned so that the knuckles are downwards; the other arm should hang down by the side, but not stiffly, and should be kept rather behind the body than not.

I have written at great length on the manner of skating the forward three, because if a beginner succeeds in skating this figure in really good form, he will find that the lesson learned in its acquisition will be of immense assistance in the greater difficulties to follow.

A pretty field figure consisting partly of a forward three may well be described here. It is composed of a forward three, say on the right, and when the skater has proceeded some distance on the inside back, the left foot is placed parallel to the right on the outside back, and a stroke being made, the right is taken up, and the skater proceeds on the curve of outside back. This is, in fact, the 'once back' which occurs so frequently in the 'Club Figures.' On the outside back of left the right shoulder must be kept well back, and at the end of this curve the skater must twist his body, from the hips upwards, to the right, as the next step is an outside forward on the left, and unless the body is completely turned round while the outside back is being skated the forward outside on the right foot cannot be accomplished with ease. When the outside forward has been continued a short distance, the left is crossed over, and the figure repeated on the left (see fig. 42). The inside forward three is usually found to be less difficult than the forward three, first, because the skater having learned the forward, has been initiated into the mystery of making a turn, and secondly, because the outside back which forms its tail is easier to hold than the inside back of the forward three. All forward turns, i.e. turns from a forward to a back direction, are made on the toe part of the skate, for the purpose of enabling the heel to clear the ice when it is swung round in making the turn. Back turns are of course made on the heel, to enable the toe portion of the skate to be swung round in

making the turn ; the inside forward three say on the right is commenced with a curve of forward inside, and the turn effected it is finished on a curve of back outside. In skating this three the left shoulder should be kept back, there being no alteration

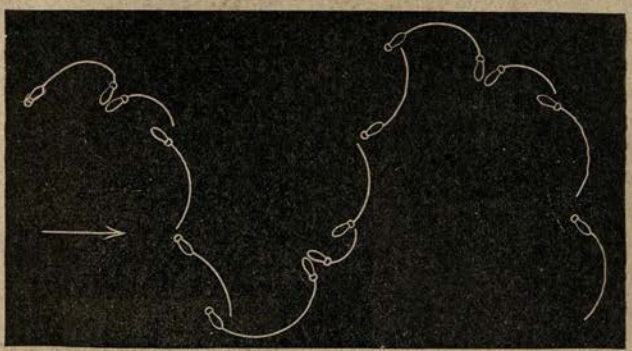


FIG. 42.

of the position while the entire three is skated, except that the left shoulder is thrust still further back just before the turn is made, and this effected, the head is turned to the left (see fig. 43). It is capital practice to do these inside forward threes to a centre, especially with a partner, as the skaters come to the centre back to back, on the outside edge backwards, and then the shoulder corresponding to the unemployed leg being thrust still farther back, brings them nearly face to face when the back outside edge is, by the turning over of the edge of the skate, converted into back inside edge, and this is done to enable the stroke to be given for imparting impetus for the inside forward three on the other foot (see fig. 44). In skating these threes, the first curve of inside edge should be held a considerable distance before the turn is made.

FIG. 43.

The back three, which is composed of a curve of back outside

and a turn to forward inside, is difficult only from the tendency the turn has to place the skater hard on the forward inside edge, and consequently he experiences a difficulty in making the tail of the three sufficiently large. This difficulty is to a great extent caused by bending the body forward when on the back outside, and by the body not being properly turned before the skate is reversed. There is a tendency also in skating this turn for the feet to get wide apart, which is the necessary result of the fault of bending the body. There is no alteration in the position of the shoulders, but just before the turn is made, say on the right, the left shoulder is forced back still

FIG. 44.

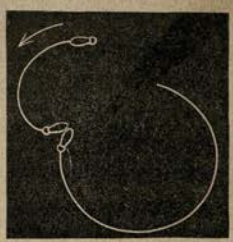


FIG. 45.

further. In the inside forward three and the back three there is more rotation set up than in the forward three and inside back three, because there is no change in the position of the shoulders previous to the turn ; hence the skater is placed hard on the edge of the resulting curve, and he must counteract this by making the turns deliberately, and holding himself very upright ; for diagram of the back three see fig. 45. We now come to the last of the threes, viz. the inside back three ; and this particular turn from inside back to outside forward has caused more falls than all the others put together. It gave rise to a happy reply on the part of a man who, when asked why he had given up skating, replied that he found it too sedentary

an occupation ! The turn is usually learned in connection with the forward three, to the tail of which another turn to outside forward is added. The skater in attempting it is in such a position that, if anything goes wrong, he comes down on his hip-bone ; and I well remember the time when, during a frost, my hip-bones were black and blue. There are two ways of skating this turn : first, the old way in which the unemployed leg is brought to the front just before the turn is made, so as to impart rotation to the body and place the skater well on the heel. The Rev. Mr. Antrobus, whose tall, slim, elegant figure used in former years to be so well known in the Club enclosure, was a great performer at turns, and he always maintained that, to skate the back inside turn properly, the unemployed leg should be swung round and in front of the employed with a motion similar to that which a skater would make use of if he were trying to kick a stone off the ice with the side of his skate ; and it is certain that by this plan facility in making the turn is readily acquired as soon as the unemployed foot can be swung in the manner indicated, and I have taught hundreds of skaters to do this turn by making use of this method. The difficulty of swinging the unemployed leg in the way described is the drawback, but as soon as a skater has acquired this knack he has mastered the difficulty. The leg should not while swinging be kept stiff, and the facility of acquiring the particular motion indicative of kicking a stone off the ice with the side of the skate can be acquired by practising without skates in a room. Of course the body, from the hips upwards, must at the same time be turned in the direction in which the turn is to be made ; but the great advantage of swinging the leg in the way recommended by Mr. Antrobus is, that it places the skater well on the heel of the skate, and so enables the toe to be thrown round without a scrape.

The second and modern way of skating this turn is to keep the unemployed foot behind, and to effect the turn simply by screwing the body round while on the back inside edge, and getting well on the heel, and looking upwards so as to secure

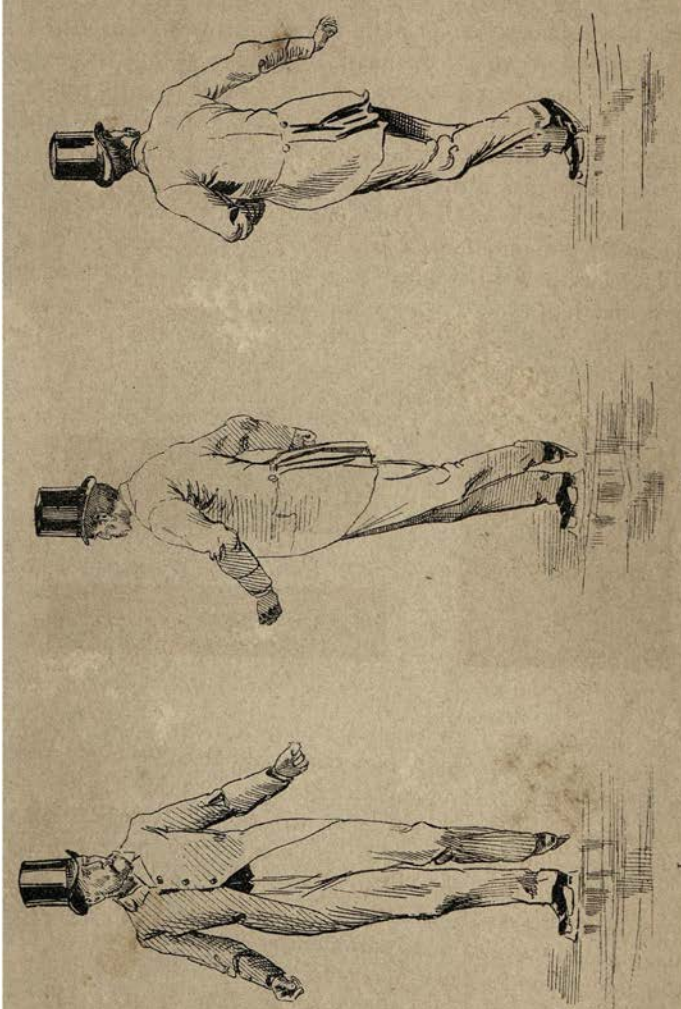


FIG. 46.

the head being thrown well back. The last direction does not seem of importance, but as a fact the turn cannot be executed without a scrape unless the head is upright, as this position places the skater unconsciously on his heel (see fig. 46), which represents a skater (1) on the inside back, (2) with the body slightly turned, and (3) with the body just before the turn is effected, sufficiently screwed round to enable the skate to be reversed. This turn is always difficult even when tried at a slow pace, and with small intervening curves. When executed at a high velocity it is an awe-inspiring performance, and a person who is an adept at it, when asked how he managed it so easily, replied that just before the turn he always looked up to Heaven and whispered a prayer that he might not break his neck! The mark made on the ice is shown in fig. 47. One

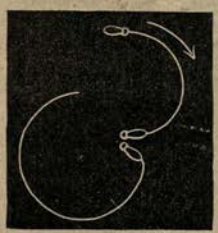


FIG. 47.

FIG. 48.

FIG. 49.

of the reasons why high velocity makes the turn more difficult is that a skater proceeding on a curve at a rapid pace must be describing a large curve, and to effect the turn this large curve must for a moment be curtailed, in order to form the cusp in fig. 48. The instantaneous lessening of the curve can be accomplished by a good skater by simply turning his heel in towards the centre, and then coming forward; but this requires great steadiness, as considerable rotation is set up. A moderately good skater may effect a clean turn by slightly turning out the heel and then bringing it in, as this creates a small curve, and renders the turn from it easier (see fig. 49).

Inasmuch as the turn from inside back to outside forward

is so difficult, the skater until he has thoroughly mastered it is placed hard on the edge of forward outside, and consequently finds it difficult to hold it, and the difficulty immediately disappears by making another turn to inside back ; therefore 'forward two turns,' formerly known as 'the half double,' is much more difficult to skate to a centre than 'forward three turns,' formerly known as 'the double three.' Most of our good skaters devote the first ten minutes of every day on the ice to practising 'forward two turns to a centre,' and this is called practising scales (see fig. 50). Having learned to skate the turns from all edges, they can be joined together by skating two, three, four, or any number of turns, and an even number of turns will always place the skater on the same edge from which he started, and an uneven number on another edge in another direction. For instance, starting on a forward outside, two turns will land him again on a forward outside, but three turns will place him on a back inside edge. There is no difficulty in skating a succession of turns from any edge, but those which commence with a forward outside or a back inside edge are the most difficult. Turns can also be very prettily joined by means of a change of edge, the method of effecting which will be hereafter described ; for instance, a forward and back three can be joined by a change of edge (fig. 51). Again, a change of edge to inside forward after forward two turns will enable the forward inside two turns to be skated (see fig. 52), and is an example of joining an even number of turns. Forward three turns, change of edge, back three turns, is an example of joining an uneven number of turns (see fig. 53).

FIG. 50.

Many years ago, while practising figure-skating on rollers, I discovered a curious turn made from an edge in one direction to an edge in another direction, as in the ordinary turn, but

done without any rotation. When ice enabled me to try it on real skates, I found this turn made a mark on the ice resembling a bracket, and I consequently called it a bracket turn, and I wrote a description, and gave a diagram of it in the 'Field' newspaper, and since then it has become common all over the Continent, Canada, and America. In the ordinary three, from outside forward to inside back we have seen that the body

FIG. 51.

FIG. 52.

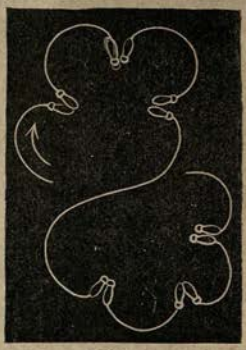


FIG. 53.

rotates half a revolution, and the skater, starting say with his face north, turns his face south, directly the skate is reversed; with the forward outside bracket turn, the skater goes equally from the outside forward to the inside back, but he effects this without any rotation, and assuming that he starts with his face north, he keeps it still looking north while the turn is being effected; after the turn, the sideway attitude appropriate to the inside edge

backwards necessitates his turning somewhat towards the south. The forward bracket turn is made by shifting the balance, raising the heel, and twisting round the skate into the proper position for proceeding on a curve of inside back. The position of the body at the moment of making the turn is identical with that necessary to enable a skater to execute a Mohawk, viz. it is turned as much sideways as possible. The secret of skating forward outside brackets well, is to keep the unemployed foot as far back as possible. In order to hold the inside back, the rotation of the body set up by the turn must be minimised. This is done by keeping the body as nearly as possible in the plane in which it is at starting; the foot only comes round with the curve. This goes on till the sideways attitude is so exaggerated that the foot must turn, which it does without any swing from the unemployed leg. If the skater raises the heel too much, his subsequent impulse on the inside back will be very feeble; again, if he does not raise it sufficiently to clear the ice in swinging it round, the edge of the skate will catch and cause a fall. Constant practice will enable a skater to raise the heel to just the required height, but it is always a difficult turn, and in the forward bracket the resulting curve of inside back is far more difficult to hold than it is after the ordinary turn.

Some few members of the Skating Club skate it as large, and with the same accuracy to a centre, as they skate the ordinary forward three (see fig. 54). The small counter curve just before and just after the cusp would seem to indicate a change of edge, but no actual change of edge takes place; the forward curve is all on the outside, and the back curve on the inside edge. The inside forward bracket is far easier to skate than the forward bracket. For this, starting on the right the right shoulder must be kept back, thus getting the body into a sideways position, but the contrary way to the orthodox pose sideways while on the inside edge forwards. In this somewhat

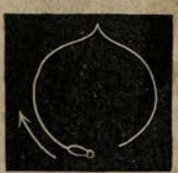


FIG. 54.

cramped position the right foot, but not the body, having followed the curve till the toe is turned inwards to an exaggerated extent, the turn is effected, and the left shoulder thrust back into the proper position for outside back (see fig. 55). The back outside bracket turn from outside back to inside forward is very difficult when done at any pace. The left shoulder must be brought forward until the sideways attitude in a contrary way to the orthodox position for outside back forces the skate to turn, when the shoulder must be instantly thrown back again, to enable the resulting curve of inside forward to be sustained. The bracket turn from inside back to outside forward is also difficult; the right shoulder must be brought forward, and this will force the skate into the small counter curve, and as this is not a true curve the strain is relieved by the turn being effected. All these bracket turns can be joined by means of a change of edge, and skated in the form of an eight, with the curious result that in an eight so skated the face of the skater is all the time pointing more or less in the same direction. For example, start on the outside forward, make the bracket turn, change from inside back to outside back, and make the back bracket, which leaves the skater on the inside forward, from which a change to outside forward places him in the position he was in at starting, and he can then repeat (see fig. 56). Of course, it follows that a similar eight can be skated starting with the inside forward bracket turn.

FIG. 55.

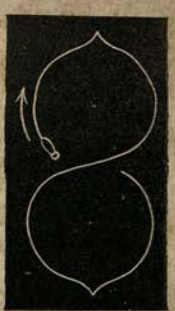


FIG. 56.

THE FOUR Q'S AND THE FOUR REVERSE Q'S

The figures known to skaters by the name of Q's, although composed of movements fairly easy in themselves, consisting as they do of changes of edge and turns, become somewhat difficult when skated as one figure; and the difficulty consists, like all other difficulties in figure-skating, in getting the body just previous to any change or turn into the right position for holding the edge after the change or turn has been effected.

Thirty or forty years ago a change of edge was not known, or at any rate not skated, consequently Q's are a modern invention. The forward Q, consisting of a forward outside edge, a change to inside edge and then a turn to outside back, was the first to make its appearance; and subsequently, as figure-skaters became more proficient in changes of edge in a backward as well as a forward direction, the other Q's and then the reverse Q's were added. A Q consists of a change of edge followed by a turn, a reverse Q of a turn followed by a change of edge.

In learning Q's the first thing to accomplish is the ability to change the edge on either foot. To effect this a start should be made on say right outside forward, and when it is desired to make the change to inside forward the unemployed foot should be brought up alongside the employed and swung out slightly in front, at the same moment the body which has been inclined to the right should be straightened and then inclined to the left, and the unemployed leg carried back behind the other foot. In skating forward Q's the impulse is given by the stroke from which the first curve is taken, and this of itself is sufficiently powerful to enable the skater to change the edge and make the turn, still leaving him some velocity to continue the resulting curve. But the serpentine line on one foot is a means of progression by itself without any push-off from the other, and this power of gaining impulse from the change of edge is of great use, and makes the skating of Q's a much more brilliant performance, as then the second curve which precedes

the turn is skated with as much velocity as the first curve, which was fast by reason of the stroke given by the other leg.

This impulse is difficult to acquire, but it is in fact a real stroke made by the foot while travelling on a curve. Suppose a skater is proceeding on the forward inside curve A B (fig. 57); and suppose having arrived at B he bends his knee, twists his body round and jumps off the ice so as to alight on the same foot on the curve of outside forward C D, and arrived at D, he again bends his knee, twists his body round and gives a jump and lands on the same foot on the curve E F, he will understand what I mean by a stroke made on one foot while travelling on a curve. Now if instead of giving a jump he presses hard on the skate at B, the place where he would have jumped, and then lighten the pressure as much as possible and turn to the right, left shoulder forward, his skate will run round into the curve C D, and at D if he uses the same tactics and inclines to the left, right shoulder forward, he will be able with a little practice and great attention to the position of the body at the different parts of the movement to skate a self-sustaining serpentine line (see fig. 58). At the moment of making the push-off at B D and F the unemployed leg should be brought up in front of the other, and the push-off and change being effected, it should be brought back to its place in the rear of the employed foot.

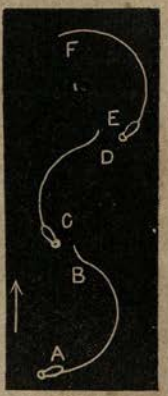


FIG. 57.

FIG. 58.

The body from the hips upwards plays an important part in changes of edge, and in the curve A B (fig. 58) the right shoulder must be as it were in advance of the body and foot, and at D the left shoulder

must be brought forward in the same way. One of the difficulties of skating a self-sustaining serpentine is caused by the momentary loss of balance by which the push-off or concealed jump becomes possible. And it is only by constant practice that the skater will be able with certainty thus for the moment to lose and regain the balance. When it was ascertained that the serpentine line on one foot could be sustained without any push-off from the other, it became obvious that if the balance were sufficiently good and the disguised push-off of sufficient vigour, a whole circle of inside could be joined to a whole circle of outside by means of the change of edge, and so a perfect eight could be skated on one leg without assistance from the other. Although a common enough figure now, I remember when I first skated it some twenty years ago (and I think I was the first member of the Skating Club who mastered it, though previous to then it was known and commonly skated in Canada), it was considered a marvellous feat, and a vague notion that perpetual motion had at last been attained suggested itself to the on-looker; but alas, even five minutes' skating continuously on one leg convinces one that the most steely muscles tire. Although a skater may be able to accomplish a self-sustaining serpentine line on one foot, he is still a long way off doing a one-foot eight, but he may gradually educate himself sufficiently to connect two whole circles in the form of an eight by commencing on a curve of outside edge and completing a half circle, changing to inside edge and completing a half circle, and again changing to outside, on which he should complete a whole circle; and when he can do this without any great loss of velocity, he should begin on the inside edge, change to outside, and then again to inside, on which a whole circle should be completed (see figs. 59 and 60).

Having perfected himself in this preliminary practice, he should try to join the two whole circles. At first he will find that he travels off to the left crab fashion, and this in consequence of the impulse being stronger from the inside to the outside than it is from outside to inside (see fig. 61). When the push-

off which precedes the change from outside to inside is as powerful as the one from inside to outside, he will be able to skate a perfect one-foot eight, coming truly over the same line

FIG. 59.

FIG. 60.

with every curve (see fig. 62). The serpentine line backwards should be learned in a similar manner, and to some skaters it comes easier than the forward one ; but the change from inside back to outside back is difficult, not that there is any difficulty

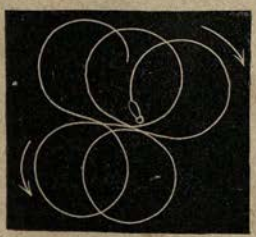


FIG. 61.

FIG. 62.

in the change of edge, but because the balance in coming round on the outside edge is troublesome to maintain. In continuous back eights, in order to make the circles sufficiently small

97506

the skater, contrary to the authorised position, should, when on the inside back of the right, turn his head and shoulders to the right, which has the effect of bringing him round on a smaller circle ; on the outside back the head and shoulders should be turned in the authorised way, viz. to the left. The power of skating continuous eights opens up a large field of practice, as the eight can be varied by inserting turns, loops and crosscuts. For instance, start on a curve of outside forward, turn to inside back, change to outside back and turn to inside forward, change to outside forward and repeat (see fig. 63).

Again, start on a curve of inside forward, turn to outside

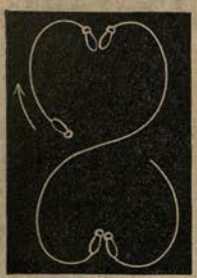


FIG. 63.

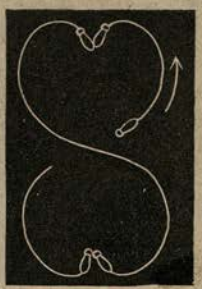


FIG. 64.

FIG. 65.

back, change to inside back and turn to outside forward, change to inside forward and repeat (fig. 64).

Again, two or more turns instead of one can be inserted (see fig. 65). It will be noticed that the turns are executed more or less in the middle of the curves, and the change of edge effected at the centre. To make the figures self-sustaining, it is necessary to finish the turns before the skater arrives at the point, where the cut or push-off gives him the impetus enabling him to skate the next set of turns. I will deal with continuous eights with loops and crosscuts inserted in them, in the chapter devoted to the description of those figures.

Now that I have described how the motive power for making a serpentine self-sustaining is acquired, I will revert to the description of the Q's. The forward Q is commenced on a curve of outside forward, which is changed to inside forward when a turn to outside back completes the figure (fig. 66).

The inside forward Q is commenced on a curve of inside forward, which is changed to outside forward when a turn to inside back (the common three) completes the figure (fig. 67).

The back Q is commenced on a curve of outside back, which is changed to inside back when a turn to outside forward completes the figure. This turn is difficult enough when executed from the tail of a forward three, but becomes doubly

FIG. 66.

FIG. 67.

FIG. 68.

difficult in the back Q as the change of edge preceding the turn is apt to make the skater bend forward, in which position the turn is impossible, and nothing but assiduous practice, keeping the body erect and the head well back, will enable the skater to make this turn without any scrape (see fig. 68).

The inside back Q is commenced on a curve of back inside which is changed to back outside, when a turn to inside forward completes the figure (fig. 69).

The only difficulty in this Q consists in the turn to inside forward placing the skater hard on the edge and with considerable rotation. The antidote is the getting the body well round before the turn is effected.

The reverse Q's, which, as I have before explained, are Q's

in which the turn precedes the change of edge, would seem very similar to Q's, but the turn sets up rotation and causes the subsequent changes of edge to come with greater difficulty than in the Q's, and a proficient at Q's will at first find considerable trouble in skating reverse Q's.

The forward reverse Q is commenced on a curve of outside forward from which a turn to inside back is made which is changed to outside back (fig. 70). When this is skated at a high velocity and consequently large, it is a very fine figure, the alteration of the balance of the body from inside to outside back being particularly graceful.

Inside forward reverse Q is begun on a curve of inside

FIG. 69.

FIG. 70.

FIG. 71.

forward, from which a turn to outside back is made which is changed to inside back (fig. 71).

Back reverse Q is begun on a curve of outside back, from which a turn is made to inside forward which is changed to outside forward (fig. 72).

Inside back reverse Q is begun on a curve of back inside, from which a turn is made to outside forward which is changed to inside forward (fig. 73).

When Q's and reverse Q's are thoroughly mastered, they can be joined by means of a change of edge, and this opens up a large field of practice ; and it must be remembered that the skater finishes the Q or the reverse Q on the same description of edge to that with which he commenced, but the direction of

going is reversed, and this will be a guide in attempting to join Q's with Q's, or reverse Q's with reverse Q's. One diagram and description of two Q's joined together will be sufficient to enable a skater to puzzle out the joining together of the others. I will take as an example 'forward Q, back Q' (fig. 74).

Of course in skating these and the other Q's joined together and skated with one impulse, the correct form of the Q is not adhered to; and until the skater has attained the power of skating continuous eights he will find it very difficult to keep up sufficient pace to enable him to skate them in proper form.

I have in the above chapters described some difficult figures

FIG. 72.

FIG. 73.

FIG. 74.

which fall, naturally, into their places when describing simpler but analogous figures, but it is not to be implied that the beginner should attempt to learn them in the order in which they are given.

After learning the outside, forward and back, and the three with the drop on to the other foot, he can at once begin on simple combination. He can skate once back and forward, forward and forward three out and forward, once back, off meet and forward; as he masters these he can go on to once back and forward three, once back meet and back and forward, forward and forward three out and once back and forward, and countless other combinations of these simple figures. Along with the acquisition of the above should go steady practice at threes to

a centre, but the beginner must not be disheartened if he finds that these come much more slowly than the rest.

The next step must be the serpentine line. This will not be found difficult when done in a forward direction and from the impulse imparted by two or three straight-forward strokes, but the change from inside to outside back is far more difficult, even when simply skated by means of impulse imparted by previous strokes, and it should be worked at hard until the change is easily effected. To make the serpentine line self-sustaining is a far harder task, and may well be left till the beginner is more advanced. The inside forward three may now be tried, bringing with it the forward Q. The inside forward Q comes as a matter of course when the simple forward serpentine and forward three have been learned. With the acquisition of the serpentine and Q's, the 'Boomerang' series of figures become easy, and now the beginner must grapple with the double turns. Those from the inside forward and its correlative the outside back, will cause little trouble, but the turn from inside back will in all probability give several average seasons of hard work before it is sufficiently developed to be brought into combination; but when this is really mastered so that the beginner can skate it whenever called upon to do so, he may go his own way, and devote himself to the acquisition of any movement that may take his fancy.

It is a great help to be able to introduce each movement as it is acquired into combination figures, as this is the best corrective of a slovenly style. Besides, the moral effect of having to do a given turn at a given place, though it makes it harder in some ways, is an immense incentive to 'going at it' reckless of consequences. Generally speaking, it must be remembered that the more movements there are in a figure, the easier it is, for the great difficulty in skating combined figures is to keep up the pace. When a figure gets slow it is certain to get out of shape, and the mere fatigue of having to come into the centre with expiring impetus is far beyond that required to keep up the pace by repeated strokes; hence it is that any

figure with 'entire' in it is always tiring, and the beginner should avoid it. The simple three skated to a centre comes under the same class, but it cannot be shirked or avoided; is must be practised steadily till acquired, only the mistake is sometimes made of supposing that no combination can be properly done till threes to a centre have been mastered. This is an error which causes many beginners needless discouragement. It is far better to get on to the easier combinations as soon as possible, and keep threes to a centre, steadily going by the side of them.

THE FOUR ROCKERS AND THE FOUR COUNTERS

In all the turns which I have hitherto described, there has been not only a change of direction from forwards to backwards, or from backwards to forwards, but a change of edge also from outside to inside, or from inside to outside. In the rockers and counters (which figures used to be designated rocking turns and counter-rocking turns), although there is a change of direction the nature of the edge is preserved; an outside forward will, by the turn, become an outside back, an inside back will become an inside forward, and so on.

These turns are all extremely hard to skate, because the turn itself is difficult in consequence of the liability of the skate to catch the ice as it is swung round; but, in the case of rockers, the difficulty is increased because the position into which the body has been placed in order to effect the turn is the wrong one for enabling the resulting curve to be held. In the rockers the turning is easy in comparison with the difficulty of holding the resulting curve; with the counters, on the other hand, the turning is the difficulty, the holding of the resulting curve being comparatively easy. The names of the skaters who have discovered the various movements which we now skate are generally unknown, and unrecorded (probably because the germ, so to speak, discovered by one man has been advanced a stage by another, and so on until it has

become a recognised figure); but with regard to counters, it gives me great pleasure to record that undoubtedly the credit of their discovery is due to Mr. H. E. Vandervell, well known as an accomplished skater, and member of the Skating Club. He skated counters twenty-five years ago, and then he called them rocking turns, and although in those days, as then skated, they were more in the nature of the figure now known as the 'Pig's Ear,' still he put younger skaters on the right track. Mr. W. R. Pidgeon and Mr. M. F. Monier-Williams, while undergraduates at Oxford, worked hard at these difficult problems and they have done more perhaps than anyone else to demonstrate not only that these figures are capable of being skated as individual movements, but that they can be introduced with great effect into combined skating.

The body of the skater in rockers is moved round in the same direction it would be if threes were being skated; in the counters, as though quickly executed Q's were being made. It is very necessary that the learner should know instinctively in which direction he should turn for effecting a rocker or a counter, and nothing is easier to remember than that a rocker is turned like a three, and a counter like a Q.

I use the term 'progression' to indicate the general course taken by the body of the skater as distinguished from 'direction,' which is used only of the relative position of the skate with regard to the body; i.e. 'direction' is used to express the motion of the skate forward or backward. It is important that these two ideas should be kept distinct. In an ordinary three the progression remains unaltered throughout, but the direction is changed at the moment of the turn, i.e. the general course of the skater's body is on a continuous curve, and the turn only alters the position of the skate with regard to this curve. In the figure known as the 'pig's ear' (which is analogous to a rocker or counter to this extent, that the skater goes from a curve in one direction to a similar curve in another direction), both progression and direction are altered; not only does the skate at the cusp change from forward to backward or *vice versâ*,

but the body itself does not continue the curve on which it reached the cusp, but returns back along it, or nearly so. This constitutes an essential difference between rockers and counters on the one hand, and pig's ears on the other. The two classes may be distinguished as 'turns' and 'kicks,' in the latter of which the pig's ear and to some extent the crosscuts are the types ; the impetus required for the change of progression is obtained by a momentary loss of balance ; the foot is not kept at the point on which the weight of the body would naturally rest, but is pushed in front and then rapidly drawn back. By this means a push against the ice is obtained, and the return effected. In a pure turn of any sort, a three, bracket, rocker, or counter, nothing of this sort happens ; the body is never off the balance, and there is nothing in the nature of a kick. It is, however, possible to skate a turn with a sort of kick, and this

FIG. 75.

to gain fresh impetus ; but this is not a pure turn, as may be seen in many cases from the marks on the ice. The kick is obtained in an ordinary three by letting the foot take a curve backward till the balance is slightly lost as the body goes onwards, and then bringing it rapidly after the body ; the result is to produce a slight loop, as shown in fig. 75.

In the common three the rotation of the body follows the curve of progression ; in brackets, rockers, and counters the rotation is in one or both parts of the movement, opposed to the curve of progression. It is physically and mechanically impossible to effect the rotation of the skate on the ice while maintaining its progression without introducing into the trace more or less of an opposed curve such as is present in the resulting curve of a rocker, and in the first curve of a counter, and which is often,

but of course wrongly, supposed to indicate a change of edge. It is possible to eliminate this curve, but only by losing the purity of the turn, for the progression of the skate must be interfered with, while that of the body has to remain unchanged. This involves a temporary loss of balance. The nature of the movement is, perhaps, most easily seen in a forward inside counter, of which fig. 76 gives the diagram. In the left-hand diagram the turn is pure, the progression of the skate is the same as that of the body, and consequently the opposed curve is shown ; in the right-hand diagram the opposed curve is done away with, thus : the cusp is made not by turning the skate, but by drawing it backwards, while the progression of the body is unaltered. The skate thus moving in one direction and the body in another, the balance is momentarily lost, and recovered

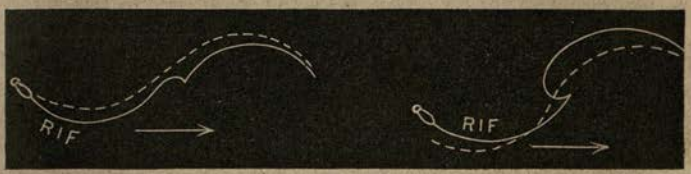


FIG. 76.

by bringing the skate rapidly round the curve after the body. A very strong impetus can be obtained by skating the turn this way, but it is not a pure turn ; it is a kicked turn, and is precisely analogous to the kicked three (fig. 75), which no one pretends is the proper way of skating a three. Nor does this way of skating a counter appear to me to be the right one. Kicks can never have the grace and power of true turns. In the counter, rotation and curve of progression are opposed only before the turn. In the bracket they are opposed both before and after. The resulting opposed curves shown on the ice are always recognised as an essential part of the bracket, and no one ever tries to skate a bracket without them. But the first part of a counter up to the cusp is identical with the first part of a bracket. Similarly, the second part of a rocker is identical with the

second part of a bracket. A counter may, in fact, be regarded as half a bracket plus half a three ; a rocker as half a three plus half a bracket. Why the opposed curve, which is held to be essential in a bracket, is looked upon as a defect in a counter or a rocker, I have always had difficulty in understanding. I believe that it is simply a relic of the exploded belief that the opposed curve implies a change of edge. If that were so, the counter would really be what one sometimes hears it called a bastard Q ; but when one recognises that the opposing curve is on the same edge as that which precedes and follows it, this objection vanishes. It may be noted that it is impossible by any sort of kick, or, indeed, by any device short of rising on

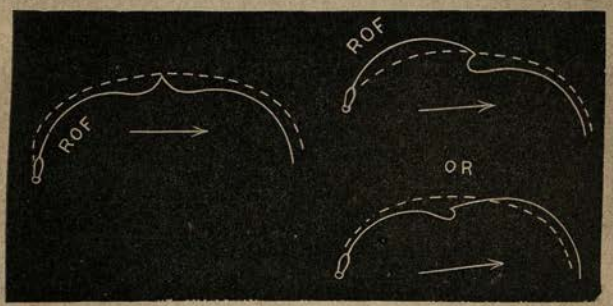


FIG. 77.

the point of the skate, to abolish *both* the opposed curves of the bracket, but it is quite possible to abolish one of them. We can, in fact, have a kicked bracket, and then the opposed curve, on whichever side of the cusp it is, is greatly exaggerated (see fig. 77).

In practice I almost doubt whether it is possible, however, in this case to get the change of edge at the cusp, where it should be. I fancy that the opposed curve is likely to be really on a different edge, the change of edge being made at the point of inflection, instead of at the cusp. This is a point that may be worth investigating on the ice. I know that in practice I have

skated such bastard brackets, but I am not sure of the exact way in which they were done.

There remains the question of the rocker without the opposed curve. This is, strictly speaking, analogous to the kicked counter, but the analogy of the kick is less obvious, as the curves are so arranged that a regular kick from the ice cannot be obtained; in order to skate such a rocker the foot is forced round on an exaggeratedly sharp curve *before* the cusp is reached. There is undoubtedly some loss of balance, but it is concealed by the fact that while it is being made the rotation is not against, but follows the curve of progression (fig. 78). In the last four figures I have indicated the curve of progression by a dotted line; for threes and brackets it is a continuous curve, whereas for rockers and counters there is

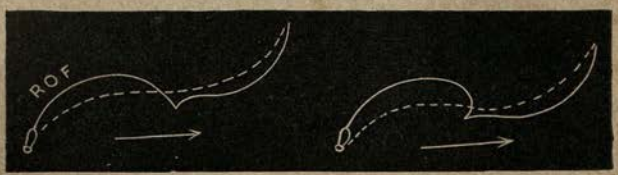


FIG. 78.

a point of inflection at the cusp. It will be seen that the characteristic of the kicked turns is that in all of them there is a point near the cusp where the skate is for a moment going in an opposite direction to the curve of progression; in the pure turns there is no such point. Whatever, therefore, is the verdict of skaters as to the ideal to be aimed at, it is certainly desirable that these two different methods of skating all the turns should be clearly grasped, and especially that the question should not be complicated by classing such unmistakable kicks as 'pig's ears' and crosscuts under the head of rockers or counters.

Rockers come easier when skated fast, and the reason is quite obvious. When a skater is going at high velocity in a curve, it must necessarily be a large one; and as in the turn

he goes from a forward to a back edge, or from a back to a forward edge of the same character, there is no passing from the edge of one side of the skate to the edge on the other, and consequently the decreasing of the size of the curve, which is so useful in the ordinary turn, is to be avoided when skating rockers. Skated slowly, it is most difficult to avoid decreasing the size of the curve just before the turn, as the swinging round of the body necessary in making the turn has this effect; but if skated at a good pace the turn is effected before the instantaneous slewing round of the body can decrease the size of the curve. Another help in accomplishing these turns is the swinging round of the heel if for a forward turn or the toe if for a back turn as far as possible, and to effect this the skater must raise himself boldly on the heel or toe at the moment of the turn. By thus getting well round the curve of progression is maintained, and the resulting curve is more or less in the direction of the first curve or line of progress, and consequently easier to hold (see fig. 79, in which the dotted line shows the resulting curve when the body and skate are not sufficiently swung round, and the other line which shows it when they are sufficiently turned). Counters, on the other hand, appear to come easier when executed slowly. Although, in making these turns, the body must be screwed round as in making threes or Q's, the turn effected, it must be instantly turned back again, and unless the resulting curve is more or less in the line of first curve—in other words, unless the curve of progression is preserved—the skater has the greatest difficulty in holding the edge. It will be understood, therefore, that when the skater is directed to turn to the right or left, as the case may be, this is only for effecting the turn; and the instant, or even a second before the turn is completed, he must throw

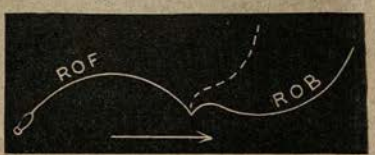


FIG. 79.

the shoulder back again into the position which alone will enable him to hold the edge of the resulting curve.

The forward rocker, say on the right leg, is commenced with a curve of outside forward, and to effect the turn the left shoulder is brought forward as though a forward three were about to be skated ; but instead of allowing the skate to turn over from the outside forward to the inside back as in that figure, the rotation is stopped by raising the heel, and swinging it round and dropping it on the outside edge backwards, and continuing that curve (see fig. 80, where the dotted line shows the direction in which the heel is swung round). As soon as ever the skater is landed on the outside back, he must get well on the heel of his skate, and turn his head as much as possible in the direction of the shoulder corresponding to the unemployed leg.

FIG. 80.

The inside forward rocker is commenced with a curve of forward inside, and to effect the turn the body is moved round as though a forward inside three were going to be skated ; but instead of landing on the outside back, as in that figure, the rotation is stopped, the heel swung round, and dropped on to the inside back, and the curve continued on that edge (see fig. 81). The turn in this figure is the easiest of any of the rocker turns, but the resulting curve is the hardest of any of them to hold. The turn, perhaps from the ease with which it is effected, seems to impart so much rotation, that at first the skater will find that he is hopelessly unable to hold the edge of the resulting curve, and will be compelled to put down the unemployed foot. I can suggest no means of overcoming this difficulty other than continuous practice, keeping the

FIG. 81.

body at the same time as upright as possible, and making the turn with deliberation so as to set up as little rotation as possible.

The back rocker is commenced with a curve of outside back, and to effect the turn the body is moved round as in the back three, but instead of allowing the skate to turn over from the outside back to the inside forward, as in that figure, the toe is raised, and swung round and dropped on the outside forward, and the curve continued (see fig. 82). This is the easiest of all the rockers, and was the first to be used in the Club figures, and when skated at Oxford by Mr. Pidgeon was called by him 'the three-quarter turn.'

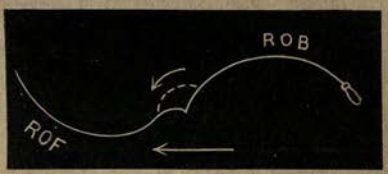


FIG. 82.

The inside back rocker is commenced with a curve of back inside, and to effect the turn the body is moved round as though an inside back three were going to be skated, but instead of allowing the skate to turn over to the outside forward, as in that figure, the toe is raised, and swung round, and dropped on to the forward inside edge (see fig. 83). The body has to be screwed round on this turn in the same manner as in the inside back three, but inasmuch as the foot has not to be swung round as much as in that figure, the actual turn is rather easier, but the subsequent curve is very difficult to hold.

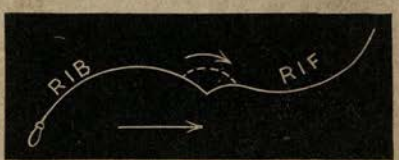


FIG. 83.

The body of the skater as in the counters moves round as though Q's were being skated, and it does not appear to me to be necessary to describe them minutely, as with the exception of turning in the direction suitable for making Q's instead of

threes, they in other respects resemble rockers. For instance, starting on the right leg, in a forward Q the skater turns to the left, right shoulder forward; he does the same thing in the forward counter (see fig. 84).

FIG. 84.

In the inside forward Q he turns to the right, and he turns in a similar manner in skating the inside forward counter (see fig. 85).

In the back Q the skater turns to the right, left shoulder forward, and he turns in a similar manner in skating the back counter (see fig. 86).

FIG. 85.

And in the inside back counter as in the inside back Q he turns to the left, right shoulder forward (fig. 87). Of course, starting with the left foot the direction of turning is reversed.

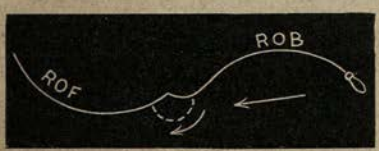


FIG. 86.

FIG. 87.

Q's and reverse Q's with rockers, counters, or brackets, instead of the common turn, can be skated, but it is unnecessary to go into an elaborate description of them, as anyone who has learned to skate the Q's and reverse Q's, and who has also conquered the rockers, counters, and brackets, will readily understand how to substitute them for the common Q turn. A change of edge, followed by a bracket, is therefore called a

bracket Q ; followed by a rocker, a rocker Q ; and followed by a counter, a counter Q ; and when the bracket, rocket, or counter, precedes the change of edge, it is called respectively reverse bracket, rocker, or counter Q.

LOOPS, CROSSCUTS, AND CONTINUOUS FIGURES

Unfortunately loops seem to exert a sort of fascination over the beginner. I say unfortunately, as they can only be acquired by a learner placing himself in positions which lead him into bad habits, and which will render large bold curves executed with perfect steadiness extremely difficult. One of the characteristics of a really good skater is the great steadiness which he displays while executing curves, and this is the result of perfect balance combined with the attitude appropriate to the curve which he is skating. And yet one constantly sees beginners, who are unable to hold a curve of three or four yards, throwing themselves into the most extraordinary attitudes in their attempts to accomplish a loop. This is beginning entirely at the wrong end. When a skater has learned the four edge and the four turns and can hold himself in the correct attitude while skating them, he may attempt loops; but even while practising them he must every now and then 'straighten himself out' by skating a large bold curve or a two, or some other figure in which an upright position is essential, as most certainly he cannot learn loops, and even when he has learned the knack of doing them he cannot skate them, without bending his body and knee and craning his head round in advance of his body ; for a loop consists of a more or less large curve which is arrested and converted into a small one to be again enlarged (see fig. 88), and to effect this the skater's body must have a great inclination, and it must be screwed round in advance as it were of the skate after the manner in which the head of an expiring spinning-top precedes the revolution of the peg. Now as this

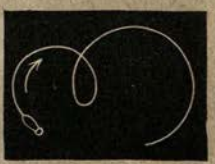


FIG. 88.

balance is very difficult to attain, the knee will be bent as a safeguard held in reserve against the possible loss of balance which is likely to be caused, not only by the unusual position the body has to assume, but also from the great rotation which is set up by the swinging of the unemployed leg. Most skaters in trying loops start on a curve of outside edge, and when the loop is to be formed the unemployed foot is swung round in front, and the further it is away from the employed foot the greater will be the rotation which it imparts; but this swinging of the leg is very ungraceful, and although a great help in learning loops, it is not absolutely necessary, as is evidenced by the skating of continuous loops, i.e. outside and inside loops joined by a change of edge. In this figure the loops must be formed by simply screwing round the body without swinging the unemployed foot, which must be kept behind and only brought forward to effect a change of edge. If swung out to facilitate the skating of the loop, it is in the wrong position for enabling the skater to effect the change of edge, and he comes to a standstill. This is an extremely difficult but very effective figure, and in the forward continuous loops the outside loop should be skated on the forward part of the skate and the inside loop on the back part. In skating them backwards the converse is the case (see fig. 89). The form of the loops should be oval, and in forward continuous loops they come readily of the proper shape after one or two have been executed; but back continuous loops are frequently made circular instead of oval in consequence of the greater difficulty of screwing the body round and swinging the unemployed leg when going backwards. A turn a loop and a turn forms a rather effective figure. Starting on a forward outside the turn places the skater on the back inside edge on which the loop is skated, the converse of course being

FIG. 89.

the case when the start is made on a forward inside edge (see fig. 90).

In the same way a loop a turn and a loop can be skated (see fig. 91).

In these figures the turns set up considerable rotation and cause the loops to be hurried, and it is necessary to pay great attention to turning the body round previous to the making of the turn so as to minimise the amount of rotation as much as possible. All beginners at loops will find that before the ability of skating a perfect loop is acquired, the loop is spoiled by a

FIG. 90.

FIG. 91.

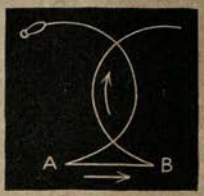


FIG. 92.

small straight line at the apex of the figure, and this is caused by a momentary stoppage; and many years ago some one encouraged the stoppage and even caused the skate to slip back, and then by swinging the unemployed leg renewed the arrested rotation, which caused the skater to come forward on a curve of the same edge as that with which he started (see fig. 92).

The figure is in reality a combination of two kicked turns partaking somewhat of the nature of a rocker and a counter, but inasmuch as the skater is for the instant stationary at the points A and B (fig. 92), and as the base of the figure is but

short, and held as it were on sufferance, two cusps are made without the turning of the body necessary to execute the true rocker and counter.

In skating the crosscut, the unemployed leg must be kept behind until the base of the figure is completed, and then swung rapidly forward. At first the base of the crosscut will be very short and straight, but with practice it can be enlarged to two or three feet, and it will then have a considerable curve of the true rocker type (see fig. 93), and this is the correct form of the figure. When the base of the figure is made large, the skater is obliged to bend his knee and body very much to enable him to get the proper drawback. Crosscuts skated backward can be made with larger bases than when skated forward, but it is a question whether it is possible to skate a crosscut having a base longer than the skater's stride, as it seems necessary that the centre of gravity of the body should be at rest while the base is being formed.

FIG. 93.

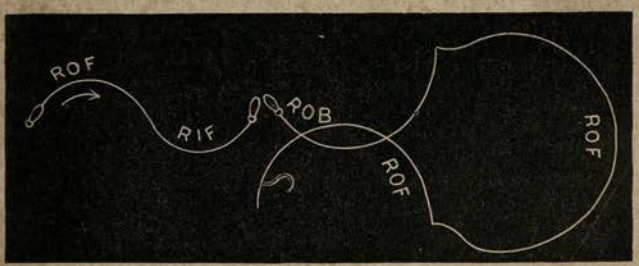


FIG. 94.

So called large crosscuts are usually executed at the tail of a forward Q, and are done at a break-neck pace, and it has been asserted that, skated in this form, the base, which must be made with considerable curvature to enable the skater to cut the first curve with the finishing curve, has been made some fifty feet in length ; but there can be little doubt that

in these cases a true crosscut is not effected. The figure becomes, in fact, a combination of a rocker and a counter (see fig. 94). Small crosscuts can be skated alternately with loops (see fig. 95), or four crosscuts can be skated in the form of a Maltese cross (fig. 96), or they can be inserted in a

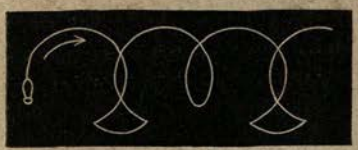


FIG. 95.

FIG. 96.

continuous eight (see fig. 97). The crosscut from the inside edge does not come with the ease it does from the outside, because the unemployed leg cannot be swung in a way to impart rotation, and in skating inside crosscuts the skater comes more obviously to a stop before and after the drawback, and

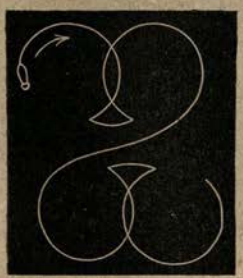


FIG. 97.

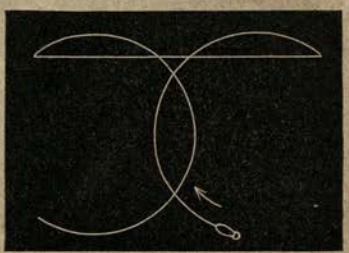


FIG. 98.

comes forward or backwards, as the case may be, more by kicking out the unemployed leg than by swinging it as in the outside crosscut.

There is a curious form of crosscut which is Swedish in origin, but even in Sweden those who can skate it are very few ;

the peculiarity of it is that the base is the opposite way to the base of an ordinary crosscut (see fig. 98). It is of the kicker class, and is a further development of what Mr. Vandervell calls the counter crosscut (fig. 99). As these figures are accomplished by coming to a standstill, and then getting impulse by kicking out the unemployed leg, they come easier from the inside than from the outside edge.

There were two axioms in skating that, for many years, were considered correct, viz. : (1) 'All circles or parts of circles performed by the skater, whether backwards or forwards on the inside edge, have their centres on the side of the unemployed foot ; and (2) on the outside edge, on the side opposed to the spare foot'; but in the year 1868, a writer in the 'Field' newspaper described a figure which he called 'The Cupid's bow,'

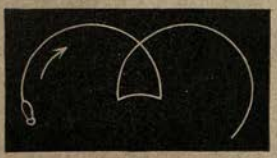


FIG. 99.

FIG. 100.

which, he said, consisted of a forward outside curve, a back outside curve, and a forward outside curve (see fig. 100).

If the above axioms were correct, it is obvious that the centre curve must be back inside ; in learning the crosscut, however, the skater will frequently find himself skating the figure, but with the centre curve executed with the outside edge of the skate, and the axiom should be as follows :—'No curve or edge can be *permanently* held unless it is concave to the side on which the centre of gravity of the body is, as otherwise the body could not be in relative equilibrium.' In accordance with this revised axiom, an edge which does not put the body in relative equilibrium may be held on to for some time, and this accounts for many variations in curves which occur in some of the figures, notably the bracket, rocker, and counter. Let us take the Cupid's bow and analyse it. After the first curve of outside

forward the turn is made ; instead, however, of allowing the skate to turn over to the inside back, the ankle is bent out, but the body is inclined towards the centre of the circle, and the skate held on the outside edge, and by keeping the heel firmly down, this false curve can be held for a considerable distance, and when the skater feels that he can hold it no longer, he relieves the strain by turning to the outside forward, which completes the Cupid's bow. If he did not make the second turn, he would be constrained to allow the skate to fall into the true curve in the opposite direction (see fig. 101).

FIG. 101.

The figure known as the 'pig's ear,' so called from a supposed resemblance to the shape of that animal's ears, is of Swedish origin, and is of the kicker class. It will be seen by the diagrams (figs. 102 and 103) that these figures can be

FIG. 102.

FIG. 103.

effected in two ways. In the one (fig. 102) the resulting curve lies outside the first curve, and is thus analogous to a kicked rocker ; and in the other, the resulting curve lies inside the first curve, and is consequently analogous to a kicked counter. Although, as I have shown, rockers and counters when executed by means of a pure turn have the curve of progression in a serpentine line, it is interrupted when the turn is effected by a kick, and the more the stoppage and kick are exaggerated the

greater will be the concavity of the second curve with regard to the first in a rocker, and the convexity of the second curve with regard to the first in a counter.

Although, therefore, the curves of a pig's ear are composed of curves similar in character to those of rockers and counters, they are perfectly distinct from these, inasmuch as the curve of progression is arrested when the skater comes to a standstill as he does in these figures at the cusp, and then comes forward (or backward) on a curve in a different direction to the curve of progression by means of thrusting forward or drawing back the foot, as in the crosscut and the pig's ear. When repeated and thus made continuous, they may be described as half of the forward crosscut, joined by means of a change of edge to half of the inside back counter crosscut. A further difference between these pig's ears and the rockers and counters is that, in executing them, there is no rotation of the body when forming the cusps, it remaining practically in the same position while going backwards or forwards; the curves in the vicinity of the cusps are effected by bringing round the skate without rotating the body. In consequence of the skater coming to a standstill at the cusps, pig's ears possess none of the 'go' which is the characteristic of rockers and counters. They can be skated from both edges, either forwards or backwards, and as at the moment of stopping at the end of one curve previous to coming forwards (or backwards) the body of the skater is leaning very much towards the centre, it is essential that the skate blades should be sharp; just before stopping on the curve of outside forward the curvature is decreased, and consequently the foot is so much turned out that the resulting curve backwards is almost at right angles to the first curve. Again, in the outside backwards, the curve is contracted by turning the heel in, stopping and then coming forward on a

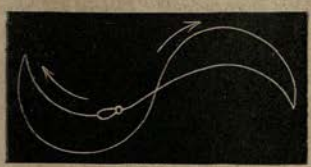


FIG. 104.

curve almost at right angles to the first curve. In the inside forward pig's ear similarly, the toe is turned in on the forward and the heel on the backward curve just previous to the stop-

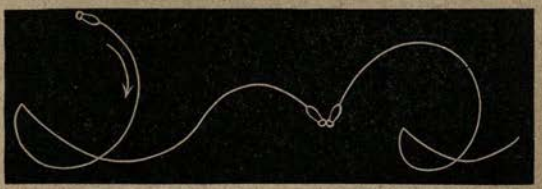


FIG. 105.

page (see fig. 104, which is a diagram of a forward pig's ear joined by a change of edge to a back inside pig's ear). The stoppage is made at the cusps, and the change of edge, from

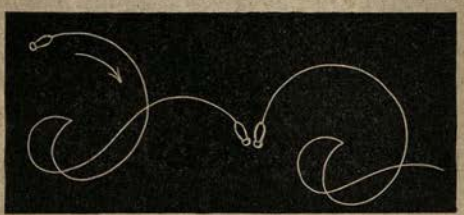


FIG. 106.

which a good deal of the motive power is derived, is made about the middle of the figure. Pig's ears, having the second curve convex or concave to the first curve, can be joined

FIG. 107.

by means of a change of edge and a turn (figs. 105 and 106). By a change of edge after as well as before the turn, a forward outside pig's ear can be joined to an inside forward

pig's ear (see fig. 107), and indeed the possible combinations are numerous. As the figures described in this chapter are such as are habitually exhibited to illustrate individual proficiency, a sort of 'peacocking' as it were, I insert in it a brief notice of figures which are not much skated in England, but which are thought a great deal of by our American cousins. I mean spins and toe steps.

A forward outside one-foot spin is usually commenced on a forward inside, when a change is made to outside, and the unemployed foot is lifted up almost as high as the knee of the unemployed, and swung round it for the purpose of imparting rotation. And it is this abominably ugly position which has undoubtedly been the cause of its unpopularity in England (fig.

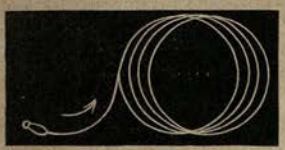


FIG. 108.

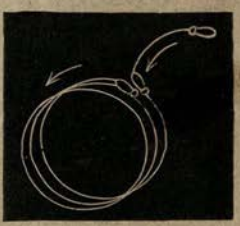


FIG. 109.

108). An inside forward spin is usually commenced by a back outside and a turn to forward inside, which places the skater hard on the edge and at the same time imparts rotation (fig. 109). A back outside spin is usually begun by a forward inside, from which a turn is made to back outside and the spin completed; the diagram of this figure is the same as the last, but with the foot going forwards instead of backwards. And the inside back spin is usually done commencing with a forward outside and then a turn as in the ordinary three (fig. 110). Some American skaters finish off these spins by raising themselves on the toe, and continuing

FIG. 110.

the rotation until they are stopped by the front point of the skate boring a hole in the ice. The two-foot spin is more graceful, as there is no swinging of the unemployed leg. The forward two-foot spin is commenced by a curve of outside, which is changed to inside, and then the left foot being turned in is put down on the inside edge, and the arms being extended at nearly right angles to the body are thrown round with the body to the left, and at the same moment the feet are pulled together. As soon as the rotation is imparted, the arms are gradually brought down to the sides. Although the knees and body must be slightly bent before the spin is started, they must both be straightened as soon as rotation begins, and if the balance is correct a man will rotate fourteen or fifteen revolutions, and he will go so fast at the beginning that his features will be undistinguishable (see fig. 111).

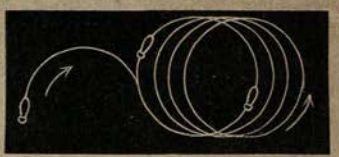


FIG. 111.

A two-foot spin backwards is usually begun by a forward outside and a turn to back inside, when the left foot is put down on the forward inside, and the rotation given by swinging the arms and body to the right. If one can execute the forward two-foot spin either to the right or left, these back spins are similar to forward spins after the rotation has been imparted. For instance, a forward spin to the right is in fact a back spin to the left, and a forward spin to the left is a back spin to the right (fig. 112). 'Toe steps,' although practised a great deal in America, are looked upon here as tricks, and not true skating. In pure skating one or both feet must be moving, and the body poised in the proper balance to hold the curve to be skated, but in

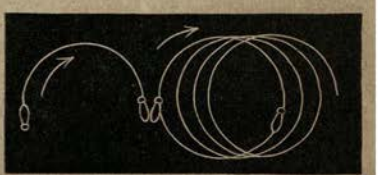


FIG. 112.

these toe steps the toe of one foot is stuck into the ice to form the pivot round which the other foot performs the various changes (fig. 113). Circles round the pivot of outside and inside backwards and forwards three loops, &c., can be skated in this manner, and the way in which the employed skate twists round the pivot is very curious. I give one diagram (fig. 114) of a figure consisting of several movements, and this will serve as a guide to other movements of a similar kind, if any of my readers think it worth while to try these curiosities. The dot in the diagram indicates the position of the pivot toe. There is one more figure which, if the skater be sufficiently

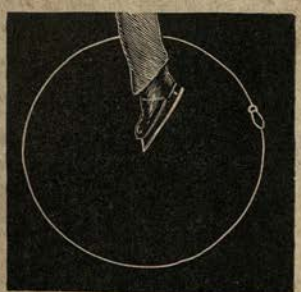


FIG. 113.

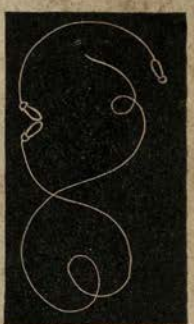


FIG. 114.

'lissom' to acquire it, is worth learning; it is called the spread-eagle. It is performed by taking a few straight-forward strokes to obtain impetus, and then, by turning out the toes so that the feet are in a straight line, with the heels almost touching, the skater glides along, either in a straight line by keeping the body erect, or in a circle forward by inclining the body slightly forward, or in a circle backwards by inclining the body backwards, when of course the feet will have to be turned out beyond the straight line. This would seem to be more difficult than going in a straight line, but in fact it is not so, as being on a forward edge with the leading foot, and a back edge with the foot which follows, the muscular tension necessary to hold

the feet in the required position is not so great as when the skater is going in a straight line, and consequently on the flat of the skate. It can also be made self-sustaining by forcing the feet together after the manner of the chain step ; and some men have the power of so turning back their feet that they can, with their back to the centre, in this way make a large continuous circle. With the face to the centre this continuous spread-eagle is not, of course, so difficult.

THE GRAPE-VINES

Many years ago I was skating at the Penn Ponds, Richmond, and I saw a man skating a two-footed figure that was quite new to me, and which seemed to be a juggle of the feet which was impossible to follow, and yet which had a rhythm and go in it that excited my emulation. I asked the stranger the name of the figure, and if he would show me how to do it, to which he replied, 'I guess they call it a grape-vine in my country, but I can't tell you how to do it, as I don't know how I do it myself.' Now a friend in Canada had sent me the diagram of a grape-vine, but as the position of the feet was not shown, I could make neither head nor tail of it ; now, however, having actually seen the figure skated, I took my diagram, and puzzled it out in a room. The next day I tried it on the ice, and after a great many failures felt at last that I had mastered it. So great was my delight that down I went the next day to the Penn Ponds, and was greatly pleased to find my American. Having again observed his grape-vine, and convinced myself that what I had learned was the same, I addressed him, and said I had learned to skate that little thing he could not teach me. I skated it to his evident astonishment, as he exclaimed, 'Well, I guess you're pretty smart,' to which I replied that, skating being a purely imitative art, it was easy to imitate any movement skated by some one else. But I have since discovered, in trying to teach even good skaters the grape-vine, that he was right in declining to attempt to teach

me, as although a skater may be able to skate all the movements of which the grape-vine is composed, he may be a long time before he is able to join them together in the form of a grape-vine.

The first thing to acquire is the ability of getting up speed by passing one foot in front of the other in opposing serpentine lines, an action known as the chain step (see fig. 115), and the next thing is to describe a serpentine line backwards, with

FIG. 115.

FIG. 116.

the feet tracking (see fig. 116). When the beginner is perfect in these two simple movements, he can begin to practise the grape-vine, and he must impress on himself that he is always to face in the same direction. Assuming that his face is pointing south, in the various changes he will turn to the east and west momentarily, but his face will always be to the south, as in the grape-vine there is no whole revolution, but a half revolution to the right and another to the left. The single grape-vine is begun by allowing the right foot to pass in front of the left with

the movement above described, and designated the chain step, when the right shoulder is thrown back, and a turn to the right effected by means of the common three on the right foot, and the inside three on the left, the turn on the right foot preceding the turn on the left by half a second. Up to this point the movement has been perfectly simple, the turn has brought the skater's body round half a revolution, and he is going backwards on a curve to the left with the right foot leading. When this curve has been sustained for some distance, the balance is shifted, and the feet being retained in the same position, that is tracking with the right leading, a curve is made to the right. Then the curve on the right foot is curtailed, and the left foot is allowed to take precedence of the right by gradually circling round it. By decreasing the curve on the right the heel is turned out and the toe consequently turned in, and for the moment the foot remains stationary on the inside forward, acting as a pivot round which the left circles, and when the left has passed it, the right toe being still turned in, the right shoulder is brought forward. At this moment the feet are at right angles to each other, with the toes pointing inwards, and this awkward position is relieved by pressing the feet together, and bearing on the back portion of the skates, and when close together with the right leading, changing the edge of that foot to the outside forward, which is the position assumed at starting ; consequently the movement can be repeated.

As the turning out of the toes in going from forwards to backwards, and the turning them in while going from backwards to forwards, is the whole essence of the movement, it is well for the beginner to commence practice by simply walking sideways, first with the toes turned out, and then with them turned in (see fig. 117). As these are the positions of the feet as shown in fig. 118, and marked B, C, there is no difficulty in the first portion of the figure, where the skater turns from forwards to backwards ; it is the second portion, where the

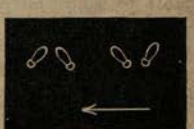


FIG. 117.

skater has to turn from backwards to forwards, which is so puzzling, and the solution is to make a distinct change of edge as shown at A (fig. 118), without altering the position of the feet, then to contract the curve formed by the right, and bear on the heel when arrived at E sufficiently hard to enable that foot to act as a pivot round which the left can circle till arrived at D. At this point the two feet are on the inside edge and pointing inwards, and forward motion can be obtained by forcing them together. Although the actual motive power is obtained by this forcing together of the feet (as in the chain step), swinging the body from the hips upwards in the desired direction is essential before the grape-vine can be skated without any apparent effort. The thick line of fig. 118 represents the

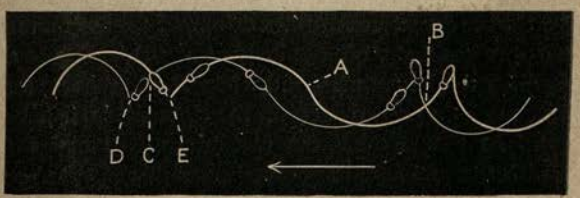


FIG. 118.

right, the thin the left foot. When the feet are in the position shown at D, E, the right shoulder must be brought forward, and if the skater screws his body round to the extent of being able to see his heels over his left shoulder, at the same time holding his feet firmly to the ice on the inside edges, he will find that the feet *must* go forward on a curve to the left.

To look well, the feet should be kept just sufficiently near together to clear each other in the turns, and the whole movement should be executed at the same pace; all the grace is destroyed if the turns are skated faster than the intermediate curves. Although in learning the grape-vine the edges are changed in the turns and curves, as shown by the diagram, yet when a skater is quite perfect, and can skate both turns and curves without any jerk, he can execute the whole movement

on the outside edges of his skates; the curves which appear to be inside curves being in fact done with the outside edges of the skates after the manner of the second curve in the Cupid's bow figure, and skated in this way the grape-vine appears to be executed with greater ease.

When the grape-vine, with the right foot in front at starting, has been learned, the same thing, but with the left foot leading (when the progress will be to the right), must be acquired; and this accomplished, the double grape-vine can be commenced. This is done, as in the single grape-vine, by passing the right foot in front of the left with the chain step, but instead of making a half revolution as in the single, the body is swung completely round by means of two turns on the right foot, and an inside loop on the left.

FIG. 119.

In this revolution the right, while making the two cusps, acts as a pivot around which the loop with the left is formed. The revolution accomplished, the left foot leads, the opposing curves as shown by the diagram are made, and then the body is swung round to the left, and so on; when skated rapidly, instead of a loop a Cupid's bow is formed (see fig. 119). The motive power is more feeble in the double than in the single grape-vine, and is more difficult to disguise, as the means of obtaining motion is only in one direction, viz.: forward in the forward double, and back in the back double grape-vine. The back double grape-vine is rather easier than the forward, because the turns are made with greater facility, and consequently less motive power on the curves is required to keep the figure going. The thick

line of the diagram denotes the right foot, and the thick arrow the forward direction, the thin arrow the back direction.

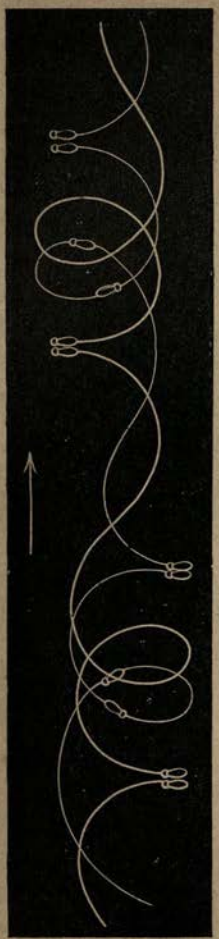


FIG. 120.

A variation of the double grape-vine can be made by skating one and a half instead of one revolution, and the extra half-revolution changes the order of going from forwards to backwards, or backwards to forwards, and consequently the skater can commence with the forward and finish with the back double grape-vine. The extra half-revolution causes the figure to consist of a cusp, two loops, and a cusp, the right foot leading and making a cusp and a loop, and the left a loop and a cusp (see fig. 120). This diagram was sent to the 'Field' newspaper by Mr. Deina in January 1891, as being new, but it has been skated in Canada for many years.

The Philadelphia grape-vine is usually skated backwards. With the feet slightly apart the skater starts with the back chain step, and allows the right to pass in front of and outside the left foot, the legs being thus crossed and the two feet parallel to each other, with the *outside* of either foot almost touching ; from this position the right foot is flipped back with a sudden jerk to the right on a curve of outside forward, the left following on a curve of inside forward. This brings the skater round half a revolution and the feet become disengaged, and the subsequent turn as shown in the diagram (fig. 121) brings the skater into the position in which he started, but with the right foot leading, and enables the left to be brought across outside of

and parallel to the right, and from thence flipped back to the left.

The flipping back the outside foot is a knack which is accomplished by a sudden twist of the ankle combined with the throwing round of the shoulders, and at the moment the skater begins to revolve the feet are locked together, to become disengaged at the end of the half-revolution (see fig. 121). The Philadephia skated forward is executed in the same way, being begun with the chain step; and supposing that the right foot is passed in front of the left, the left is brought up outside of and parallel to it, and then the heel is flipped back to the left on a curve of outside back, the right following on a curve of inside back, when the feet become disengaged, and the subsequent half-revolution is similar to the turn from backward to forward of the single grape-vine. This brings the skater to his original starting position, but with left leading, so that the movement can be repeated with rotation to the left, and so on. Skated forwards it is a curious rather than a graceful movement, as the constant turning in of the skater's toes renders it inelegant.

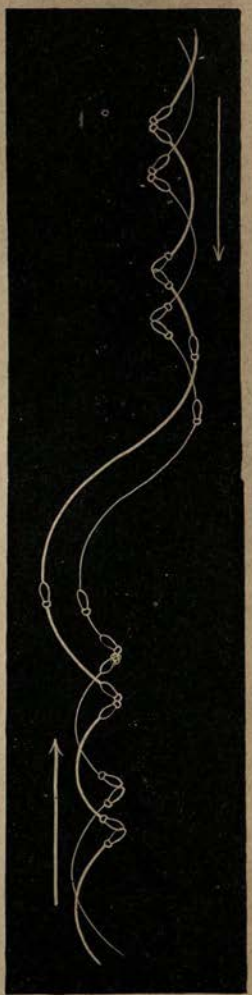


FIG. 121.

The Philadelphia grape-vine can be used as a means of connecting circles of outside back on either foot, and is very effective. The figure in fact becomes a back eight, with the circles tied together by means of the Philadelphia twist. To skate it, a

FIG. 122.

whole circle is made on the outside back with say the right foot, when the left is placed down, behind outside of and parallel to the right, and with the feet thus locked together a half-revolution to the right is made ; this accomplished, a stroke is made with the right, and the other circle of outside back on the left is skated, and so on.

It can also be used for the purpose of coming forward from backwards after a whole circle with the two feet tracking has been made, and having come forward a whole circle with the feet tracking in a forward direction is completed, and assuming that the right foot leads an inside three on that and a forward three on the left, again places the skater in a backward direction.

A variation of the Philadelphia, named the Philadelphia spread-eagle grape-vine, is skated by using the turn made with the feet locked together and substituting a spread-eagle for the other turn. It is begun as in the Philadelphia, starting backwards ; the right foot is flipped back as in that movement, and when half a revolution has been made the rotation is stopped by the left, which has followed the right on a curve of inside forward, being turned to inside back, thus placing the feet as in the spread-eagle figure. When this has been sustained for about a yard, the right, by the unusual turn of throwing the toe round inwards, is

turned to inside back, and the left immediately crosses it and takes up its position outside of and parallel to it, when the movement is repeated with rotation to the left (see fig. 122).

A funny little movement, called the spread-eagle twist, is made with a combination of spread-eagle, the turning in backwards of the toe of the leading foot, and half of the whole revolution made use of in the forward double grape-vine. The start is made with the spread-eagle, the right foot leading, and when this has been sustained about a yard and a half the right foot is turned in as in the last described grape-vine, so that both feet are for the moment turned in a backward direction and tracking, and then the body is swung round to the left a half-revolution, the right forming a loop round the left, which while acting as a pivot forms a cusp, and this brings the skater to the position in which he started, and the movement can be repeated.

The Pennsylvanian is the only other grape-vine known at present. It is begun as in the Philadelphia, but a whole instead of a half-revolution is made with the feet locked together. Assuming that it is to be skated in a forward direction, the right foot is passed in front of the left with the chain step, and then the left is brought up outside of and parallel to it, and when thus locked together the body is swung round a whole revolution to the right, and this effected the skater is facing in the same direction as at starting. The left foot is now pushed a little to the front to allow the right to become disengaged, when the chain step is taken up with the left foot leading and the feet again locked, and a whole revolution to the left effected, and so on. Swinging round a whole revolution with the feet locked is nervous work, but it is actually safer to do it at a fairly quick pace than slowly, as then there is less chance of the edge catching, and stopping the skater. As this pirouette takes away all motion in a forward direction, considerable strength of leg is required to make the chain step, which connects the two whole revolutions, the motive power, without showing obviously and ungracefully how such motive power is

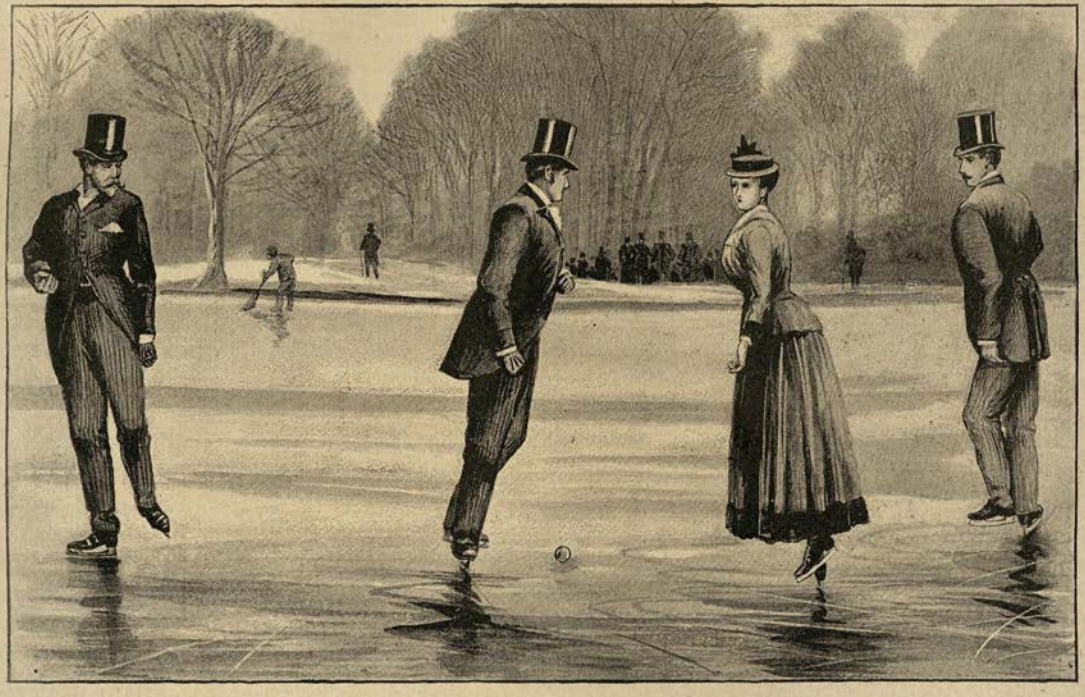
obtained. Curiously enough, although so dissimilar in movement, the marks made on the ice in skating the double and the Pennsylvanian grape-vines are similar, except that when the double is skated slowly a true loop is made between the two cusps; but in the Pennsylvanian, as in the double when skated quickly, there is an abortive loop in the nature of the Cupid's bow between the two cusps.

Grape-vines are certainly the prettiest of all two-footed figures, but to look well they must be executed without any variation of speed. If the various grape-vines are intermingled, first one, then another, or a bit of one and a bit of another, the juggle of the feet is perfectly bewildering to an onlooker who is not thoroughly conversant with all the different sorts of grape-vines. They tell a story of a lady, the wife of an officer who had lately been quartered in Canada, who happened to be in Galway on one of the rare occasions when Loch Corrib was frozen, and who was skating these grape-vines, with an admiring crowd of peasant women looking on, and one of them was heard to say, 'Sure now, and I think the devil is in her feet, God bless her!'

THE SKATING-CLUB FIGURES

It is a curious fact that, notwithstanding the little opportunity we have in Great Britain for continuous practice on ice, we are far in advance of any other nation in combined figure-skating. As distinguished from a means of locomotion, skating as a pastime has probably been practised longer in Great Britain than in any other country; and it is evident from those places where figure-skating has only lately been seriously cultivated, such as Sweden, Germany, &c., that at the commencement, individual skating is the only thing that commends itself to the votaries of the art, and when, later on, there is an attempt to skate in combination the figures selected are all of the same elementary character.

The Skating Club began with simple curves of out-



A Club Figure: 'Forward Three'

side edge, a few years after the Oxford Skating Club initiated the same form of combined skating, and much later we have the same process going on amongst the American, Canadian, German, and Swedish skaters; but the curious thing is, that with text-books to guide them they do not expand their elementary figures into the brilliant combinations which are known as 'The Skating Club Figures.' The pleasure derived from combined skating is twofold; it is pleasurable to the individual forming part of a set, and it is pleasurable from the feeling that he is contributing to the amusement of the other skaters composing the set. In former days, no doubt, the very elementary figures skated in combination did not lend themselves to individual display; but now, when all the most difficult movements are skated in combination, and are rendered still more difficult by the necessary addition of regulated pace and extreme accuracy, no skater can plead that he prefers complicated and showy figures skated by himself, as being more difficult.

The number of skaters who can take part in a figure depends a great deal on their individual proficiency. With really accomplished skaters who are accustomed to skate together, a figure composed of ten will be possible, but the usual number is four or six.

One of the four is nominated caller; it is his duty to specify in a clear voice the figures to be skated, and all who take part in a figure should be so well acquainted with the names of the figures called, and what they imply, as to skate them as it were mechanically, as a drilled soldier obeys the word of command; and this mechanical obedience is necessary, because the timing of the figures is so nicely regulated that the slightest hesitation in skating what is called, may be the cause of bringing all the skaters composing the set to grief.

There are two methods of skating in combination. The first and more usual way is for the four skaters to stand opposite each other, one at each corner of an imaginary square. The pair of which the caller is one, on the figure being called, start

first and pass each other at the centre, and the second pair start as soon as they can without colliding with the first pair, crossing them at right angles. The spot which the skaters radiate from and return to is called the centre, and is usually marked by an orange, but a handful of snow or cut-up ice will serve when an orange is not available. The whole secret of skating the club figures properly, depends to a very great extent on all the skaters leaving the centre at approximately the same angle, and this is only possible in one way. In fig. 123 I give a diagram with two lines crossing each other. At the extremity of each line are supposed to be the four skaters just previous to the start, and I have drawn the figure of a three done by the one of them who faces north; his partner executes the same movements at the same moment in the opposite direction, and the pair facing respectively east and west imitate them by crossing the centre a second later. Assuming that the skaters go well up to the centre as they should do before commencing the three, and assuming that the three is executed on the right foot, they can only get a certain distance to the left of the imaginary lines drawn north and south and east and west, and the limit of the divergence is about three feet. If everyone therefore strives to attain this limit, each will practically start from the centre at about the same angle (see fig. 123). If this plan is not adhered to, there is no limit to the amount one man can 'poach' to the right, and as his partner has to keep square with him he must practically do the same; consequently these sinners are not square with the other pair. Assuming that the start is made at the same angle, each skater

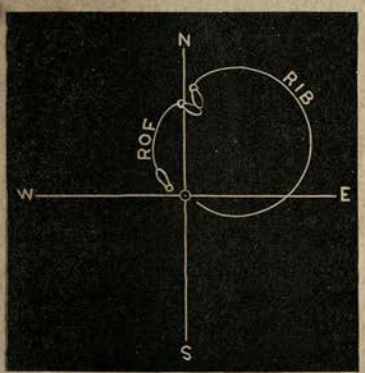


FIG. 123.

has to watch his partner, and keep a straight line between himself, the centre, and his partner. The size of curves, and the pace, should as far as practicable be those set by the caller, but it frequently happens that one man skating in a set is less strong than the others, in which case his partner must accommodate himself to the weaker skater, so that both arrive at the centre at the same time. As a fact, when a strong and a weak skater are partners, if the weaker skater has properly learned his lesson, and makes his turns and changes at the right places, he does not do any damage, as his small skating is much slower than that of his more vigorous partner ; and although the distances traversed are unequal, both skaters arrive simultaneously at the centre. Therefore a slow but accurate skater need never hesitate about taking his part in a figure executed by strong skaters ; but an inaccurate skater, who does not circle round the centre, whether in large or small curves, in the same way as his partner does, must necessarily throw the figure into confusion.

When two only are skating a figure together, the strong skater can accommodate himself to the weaker, and hence in learning the Club figures a beginner is assisted if he practises with a stronger skater than himself. The strong skater will accommodate himself to the faults of the beginner, but he should invariably point out such faults and repeat the figure until it is so accurately skated that, if four or more had been skating together, no difficulty would have occurred. Besides getting well to the left when passing the centre on the right leg, and to the right when on the left leg, the beginner should always remember to strike away from the centre at the beginning of the figure ; he should make the curves large, and he should, when on the back outside, look at his partner as long as practicable over the shoulder corresponding to the leg executing the movement, accelerating or retarding his pace so as to keep the centre and his partner in a straight line. Of course if six are skating together, they stand opposite each other at the angles of a sexagon, and if eight at the angles of an octagon, and the caller

informs each pair whether he is to start second, third or fourth ; then they follow the leaders in the order named, at such an interval of time as will enable the pair who precedes them to clear the centre. If an odd number are skating together, the odd man skates last, and he should be selected in consequence of the accuracy of his skating, as having no partner the difficulty of keeping square is great.

The other plan of skating the Club figures consists of all the skaters composing a set doing the same figures at the same moment. This method of skating them has been called 'Simultaneous,' and was first introduced to the notice of skaters by a member of the Skating Club, Mr. W. C. Marshall, in a little book on combined skating written by him, and entitled 'The Figure-Skater's Pocket-Book.' Although published many years ago, Mr. Marshall's idea was not practically adopted till last winter. Of course, it is obvious that the skaters cannot cross each other actually at the centre at the same moment, consequently they come to within say a yard of the centre and then go off on any stroke that may be called to the right or left. Suppose an imaginary circle having its circumference about two feet from the true centre be drawn round it, each skater must consider that he has his own particular centre, which is a point at the circumference of the imaginary circle drawn round the centre, and he must never come nearer to the actual centre than this point (fig. 124). By skating the Club figures in this way they have to onlookers much more the appearance of a concerted movement than when skated the old way, because all the skaters do the same curves, turns, and changes at the same moment of time, whereas in the old way the first pair are always a second or so before the second pair, and the second pair before the third, and so on ; and although the same movements are done by all they do not appear to be

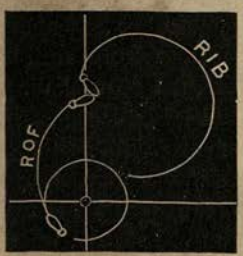


FIG. 124.

the same movements, because while the first pair is coming into the centre on a curve, the last pair is still going from the centre and perhaps executing a turn. Of course in the simultaneous way of skating the Club figures the skaters do not come so close past the centre as they do in the old way, and unless each skater keeps very accurately to his imaginary centre the general effect is not good, as there appears to be a mob of skaters in confusion at the centre until they reverse and repeat on the other foot. That is the only weak spot in this plan of skating the figures, as undoubtedly when all the skaters composing a set are away from the centre the fact of everyone doing the same curves or turns at the same moment of time is a decided improvement. When an odd number of men compose a figure the simultaneous method is obviously the better, as there is no odd man; and when three only are skating the imaginary circle round the centre can be reduced and the skaters can go very close to the true centre—that is, assuming that they are all three accurate skaters.

The first method is probably the more difficult, as the necessity of being accurate in time when approaching the centre is more essential than in the same figure skated simultaneously; but the old plan is for the skaters more pleasant, as it is most amusing when several pairs are skating to see everyone clear out of your way and then to discover your partner advancing towards you out of the ruck; and it is certainly better for weak ice, as by the skaters all coming together at or near the centre, as they do in the simultaneous figures, a great strain is put upon it. One of the difficulties to be surmounted in skating the figures simultaneously by those who have been accustomed to skate them the old way, is the absence of a partner and consequently the loss of the means of judging (by keeping the centre in a straight line between himself and his partner) if the pace and size of the curves are rightly proportioned. Skated simultaneously, there are no partners, although no doubt if an even number of skaters compose a figure each skater will have a man opposite him on the other side of the circle, and this quasi-

partner will act as a guide in keeping each skater and the man opposite to him square with the others. In endeavouring to teach the simultaneous method of skating the Club figures to men who were accustomed to skate them in the old way, I have found that at first everyone is greatly puzzled as to how he should come to the centre and go from it. The diagram I give later on (fig. 131) will, I hope, be of great assistance, although it only shows the marks made on the ice by one skater, and I think the two diagrams 125 and 126, showing the last stroke of 'once back and forward meet' (fig. 125), and 'once back and forward off meet' (fig. 126), when executed

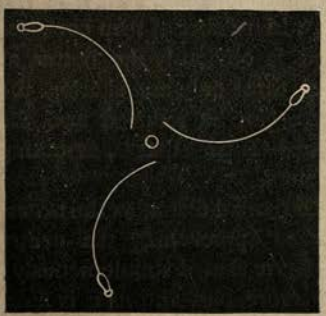


FIG. 125.

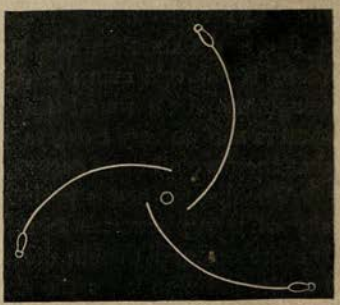


FIG. 126.

by three men simultaneously, will make any mistake impossible. The diagrams show by the marks made on the ice that three men can come to the centre, or almost to the centre altogether, without colliding, and can therefore go from it on the other foot without difficulty, and these two diagrams will be a guide to all the other figures when skated simultaneously (see figs. 125 and 126).

One of the difficulties that used to meet the beginner was to know to which side of the centre he should come, and of late years there have been so many different ways of skating the Club figures with reference to this, that it was felt so important a point should be clearly defined by the call. After many

meetings and much discussion within the Skating Club, it was decided to ask the various clubs round London to send deputations to confer with the committee of the Skating Club, and the following clubs sent representatives, viz. Wimbledon, Thames Valley, Hampstead, and Crystal Palace, and after considerable discussion the following Explanation of Terms, and Rules, were agreed to on July 1, 1891.

EXPLANATION OF TERMS

1. The term 'movement' is confined to a movement on one foot.

2. A figure is a movement, or series of movements, beginning and ending at the centre.

3. The term 'entire' is applied to a movement or part of a movement which commences and ends at the centre.

4. The words 'meet' and 'pass' are used to express the two methods in which the centre may be passed in the course of a figure, without expressing the word centre in the call. When the word 'meet' is called a fresh stroke is taken up at the centre, and when the word 'pass' is called, a fresh stroke, if demanded by the call, is taken up beyond the centre.

5. The term 'change' means a change of edge by means of a serpentine line.

6. The term 'rocker' is substituted for rocking turn, 'counter' for counter rocking turn, 'bracket' for bracket turn.

7. The word 'centre' applied to any change, turn, Mohawk, &c. means that such change, turn, Mohawk, &c., is to be executed close to the centre.

8. The term 'once back' means a series of movements consisting of a forward turn followed by a drop on to back outside edge of the other foot; similarly 'inside once back.' The term 'twice back' means the same series of movements, skated twice in succession; similarly 'inside twice back.' The term 'once forward' means a series of movements consisting of a back turn, followed by a drop on to the forward outside edge of the other foot. The term 'twice forward' means the same series of movements skated twice in succession. Similarly 'inside once forward' and 'inside twice forward.'

9. The term 'about' applied to any movement means a change in the direction of revolution round the centre on that movement.

RULES

1. The caller sets the time, speed, and mode of skating all figures, and must be accurately followed by the other skaters.

2. Every movement of a call shall be commenced on the outside edge, unless inside be specified.

3. Whenever the foot is changed in a figure, the term 'and' shall be used to denote that change. Exceptions : once and twice back, &c., once and twice forward, &c., Mohawk, cross Mohawk, &c., Choctaw, cross Choctaw, &c.

4. The centre shall not be approached before the end of a figure unless one of the words 'centre,' 'pass,' or 'meet,' be inserted in the call.

5. The centre shall always be kept outside the curve on which it is approached, unless the word 'off' is called, when it shall be kept inside the curve.

6. The centre shall be kept inside the curve on which it is left on commencing a new set of figures, which shall be begun on the right foot unless otherwise specified.

There are two ways of approaching the centre, viz. (1) by keeping the centre outside the curve on which it is approached,

FIG. 127.

FIG. 128.

FIG. 129.

FIG. 130.

in other words coming up to the centre on the near side ; and (2) by keeping the centre inside the curve on which it is approached, in other words coming up to the centre on the off side. The latter used to be indicated by the call 'meet' (see figs. 127 and 128). But in combined skating the centre has to be frequently passed, either on the near or the off side. During the winter of 1890–1, when the centre was passed on the near side, it was generally indicated by the call 'By centre,' and when on the off side by the call ' Pass ' ; and this latter call has, indeed, been used for many years (see figs. 129 and 130).

As the words 'meet' or 'pass' indicate that the skaters meet at or pass by the centre, it was at the conference declared expedient to have only one word to explain on which side of the centre the meet or pass should take place, leaving it to be implied that whenever the word was not inserted before the word meet or pass the other side was intended. Unfortunately, the words meet and pass have, up to the present time, been used to indicate the meeting at, or passing by on the off side of the centre, and it was demonstrated that, if this were adhered to, it would necessitate the distinctive word being 'on' instead of 'off.' As in most of the figures the centre is approached or passed on the near side, it would necessitate the prefixing of the distinctive word to most of the calls, and this was considered to be a greater inconvenience than altering the hitherto well-known meaning of the terms meet and pass. It was therefore decided that the terms meet and pass should in future indicate a meeting and passing on the near side of the centre, and that, when the old meet and pass were intended the word 'off' should be prefixed to the words meet and pass.

If a hitherto well-known term is considered obsolete, there is no objection to its abolition; but I consider that there is a grave objection to applying a term which for years has indicated the skating of a figure in a particular way, to a new way of skating the same figure, or to a different movement altogether. No doubt in time the old meaning will be forgotten, but for many years to come the changing of movements from one to the other side of the centre, as has been done in the case of meet and pass, and in the making use of the old term 'entire' (which meant a cross roll at the centre) to signify 'a movement or part of a movement which commences and ends at the centre,' will cause endless collisions and confusion. However, the supreme authority in skating matters having so ordered, skaters are sufficiently good sportsmen to loyally accept the decision. The terms therefore for approaching and passing the centre will henceforward be meet, pass, off meet, off pass.

The term 'meet' implies that the centre shall always be kept

outside the curve on which it is approached ; in other words, the skater shall approach the centre on his near side, and arrived at it he shall execute the movement that may have been called (see fig. 127).

The term 'pass' implies that the skater shall go past the centre on his near side some little way before making another stroke (see fig. 129).

The term 'off meet' implies that the centre shall be kept on the inside of the curve on which it is approached ; in other words, that the skater shall approach the centre on his far side, and arrived there he shall execute such further movement as may have been called (see fig. 128) : and the term 'off pass' implies that the skater shall go past the centre on the far side some little way before taking another stroke (see fig. 130).

It is most necessary that the mind of a beginner should be thoroughly imbued with what the different terms used for approaching the centre in different ways imply ; for if he should hesitate and skate an off meet or an off pass when he should have skated a meet or pass, he will most assuredly bring himself and his fellow-skaters to grief.

We have seen in the explanations of terms that the word centre applied to any change, turn, Mohawks, &c., shall be executed close to the centre, consequently the term 'centre three' means that a three is to be skated on the near side of the centre, and the turn of the three made at the centre, and the term 'off centre three' means that a three, with the turn at the centre, is to be skated on the far side of the centre.

The term 'centre change Q' means that the change which precedes the turn is to be made on the near side of the centre, and the term 'off centre change Q' on the far side of the centre.

The terms 'centre turn Q' and 'off centre turn Q' mean in like manner that the turn of the Q is to be made on the near and the far side of the centre respectively.

It is impossible to say how the above rules and explanations of terms will work in practice, but it is hoped that at last we

have established a system by which every possible figure that may be called will be readily understood.

The diagrams I give of the Club figures show the movement or figure of one skater only, and on the right leg ; his partner does the same movement or figure on the same leg, and each starting on the right leg passes the other at the centre right shoulder to right shoulder. The diagrams show the movements of one skater when figures are skated to the true centre, the skaters following each other in pairs. To apply them to the simultaneous mode of skating the Club figures the reader has only to imagine that there are as many imaginary centres at the circumference of an imaginary circle drawn round the true centre as there are skaters. For instance, suppose there are four men skating the figure 'once back and forward,' the diagram (fig. 131) shows the position of the imaginary centre of each skater, and although these imaginary centres are not fixed points they will always be somewhere on the circumference of the imaginary circle. This will be a sufficient guide to all figures skated simultaneously.

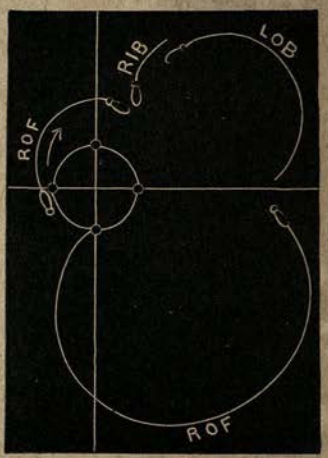


FIG. 131.

The diagrams only show figures skated with 'once back,' though when more than four men are skating it is well to skate twice back, as a twice back gets a crowd further from the centre and also adds pace ; but from the drawing of once back, twice back will be readily understood as repeating the forward three and drop on to the outside back. A once back absorbs about a quarter of a circle, and of course a twice back will absorb about half a circle.

In practice it is customary to commence most of the figures

with twice back, and this constant repetition of the same figure is not only fatiguing but monotonous. Of course the reason of its use is that pace may be attained, and its retention is no doubt essential in some of the figures where the last movement of a figure is a difficult one which requires a good impetus to skate it properly; but there are a good many figures which do not require the pace to be worked up for the sake of the last movement, and in these the eternal twice back might be varied by substituting for it one of the following:—

Forward and forward three out and once back.
Forward change out and once back.
Forward and inside forward three and once back.
Inside forward three and once back, &c.

To give diagrams and descriptions of all the known figures would take up too much space. I propose therefore simply to give diagrams and descriptions of types of figures, with the calls for others of the same type, and anyone who has mastered the explanations of terms and the rules should be able to understand them readily.

The following letters denote the edge, the foot used, and the direction of going:

R O F	Right	foot,	outside	edge,	forwards.
R I F	„	„	inside	„	„
R O B	„	„	outside	„	backwards.
R I B	„	„	inside	„	„
L O F	Left	foot,	outside	„	forwards.
L I F	„	„	inside	„	„
L O B	„	„	outside	„	backwards.
L I B	„	„	inside	„	„

A very large proportion of the Skating Club figures are begun with a once or a twice back. It is very important therefore that the once or twice back should be learned in the best possible manner. The fault most usually committed is having the feet too wide apart at the moment of striking from the tail of the three of one foot, to the outside back of the

other foot. This separation of the feet is caused by the bending of the body induced by the erroneous idea that a stronger stroke can be made with the body bent. As a fact, if the body be kept upright the feet will naturally be nearer together, and the stroke or push off proportionately stronger. A figure is always started on the right foot, consequently the skaters cross each other at the centre right shoulder to right shoulder, and if the call return them to the centre on the same leg the figure can be repeated on the left; but if the call necessitate the centre being reached at the end of the figure on a different leg to the one with which the figure was begun, some other figure, which will end on the original starting leg, must be interposed before the figure can be repeated on the left.

Once back and forward (fig. 132).—After the once back, the skater is brought to the centre on the near side, on a curve of outside forward, when the movement can be repeated on the left foot.

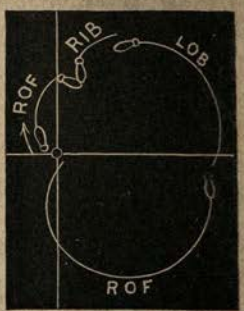


FIG. 132.

Once back and forward, and inside forward.—In this figure the forward after the once back is skated rather out from the centre, and then the left is put down on the inside forward, and the centre reached on that edge.

Inside once back, and inside forward.—This figure, which is not often used, is commenced with an inside forward three, and for this the skaters, being on the right foot, must pass each other at the centre left shoulder to left shoulder, then a drop on to the inside back of the other foot, and then skate an inside forward which brings them to the centre.

Once forward and back.—This, and the inside once forward and back, being mentioned in the explanations of forms, I feel bound to shortly describe them, but they are not practical figures. Once forward and back is very rarely skated, as by beginning with a back three, and dropping on to the inside

back and then executing a Mohawk, the swing and go of the once back are wanting.

Inside once forward, and inside back is even less practicable, as the skaters have to start from the centre with the difficult inside back three, and having dropped on to the inside forward, the back inside is taken up by spread-eagling the feet, actually doing a back inside Mohawk.

It seems a paradox that a once back should be begun by a forward three, and a once forward by a back three, but the forward three in the once back is only as it were the conduit pipe for getting on to the back which is the principal curve in the figure; and conversely the same argument applies to the once forward.

There is no better figure than the once (or twice) back and forward for initiating a beginner into the mysteries of the Club figures. His teacher should make him skate it with him over and over again until he skates it perfectly, by making the turns and curves at the right points relatively to the circle, and at the same time keeping the centre and his partner in a straight line. The perfect acquisition of this one figure will be a guide to the proper method of skating scores of others of the same type. Take the next figure of

Once back and forward three, which is analogous, the only difference being that the centre is gained on the tail of the three, instead of on the outside forward.

Once back and forward, and inside forward three.—In this, after the forward, the right foot is put down, and the inside forward three skated to the centre.

Once back, back three.—In this figure the skater, from the outside back turns to inside forward, on which edge the centre is reached. Great care must be taken to counteract the rotation set up in making the turn, by getting the body well round before the foot is reversed, otherwise it will be difficult to keep the curve sufficiently large to enable the skater to come properly to the centre.

Once back, and inside back three.—In this the inside back three

is taken up by crossing the right leg over in front of the left, and the turn effected, the centre is gained on the outside forward. This figure comes naturally into its place here, as I am treating of figures in which threes play a part ; but it is a very difficult figure, and not to be tried by the beginner until he is strong on the difficult turn from inside back to outside forward.

Once back and forward meet, and forward.—In this figure the skater runs to the near side of the centre, on the outside forward, and arrived there he takes another stroke with the left from the cross, and runs again to the centre upon it, and if the call 'and forward entire' were again given the skaters could be skating what was formerly known as 'Half eights.'

Once back, meet, and back entire (fig. 133).—Here the skater runs to the centre on the outside edge of the back, and arrived there on the near side, he executes a back cross roll, which again brings him to the centre, and this figure used to be known as once back entire. If the call 'and back entire' is given, the skaters are executing what used to be called 'back eights.' This is a very difficult movement to sustain, as the stroke from the back cross roll is somewhat feeble. Two good skaters can keep it going and fairly large on good ice, as they can accommodate each other, but when four or more skaters are taking part in the figure, it is well for the caller to abstain from requiring more than one cross roll being skated at the centre.

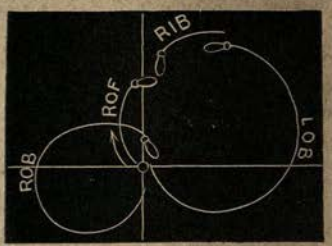


FIG. 133.

Once back, meet, and back, and forward three.—In this, instead of running to the centre on the second back, the skater keeps away from the centre on this curve, and then runs to the centre on the forward three.

Once back and forward, off pass (fig. 134).—In this the

skater runs past the centre on the forward outside, and if it is intended to continue that curve round till the centre is again reached the word 'entire' is added to the end of the call. This and all the subsequent figures in which the last movement emanates from and returns to the centre, may have the word entire added at the end of the call, and the diagrams show the figure as though entire were called; but as a fact it is very customary to continue the pass some way past the centre, and then finish the figure with another movement on the other foot, and this is done so that a new stroke may bring the skaters with greater power and certainty to the centre. It is only with good skaters, and on good ice, that a figure should be skated as an entire.

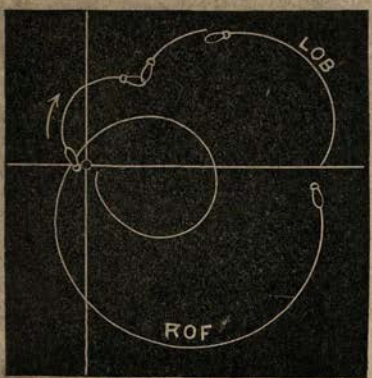


FIG. 134.

Once back and forward, and forward inside, off pass.—This is similar in character to the last, only instead of running to the centre on the outside forward, the skater keeps out on that curve, and putting down the left, runs past the centre on the off side, on the inside edge.

Once back and forward pass.—This is similar to once back and forward off pass entire, except that the centre is now passed on the near instead of the off side.

Once back and forward, and inside forward pass, is similar in character except that the left is put down, and the centre passed on the inside edge of that foot.

Once back, back pass, and *once back, and inside back pass* will be readily understood.

Once back, and forward centre three.—This is similar to once back and forward three, except that the word centre being

prefixed to three, the turn of the three is made at and on the near side of the centre (fig. 135).

Once back, and off centre three.—This is similar to the last figure, except that the turn of the three is made on the off, instead of the near side, of the centre.

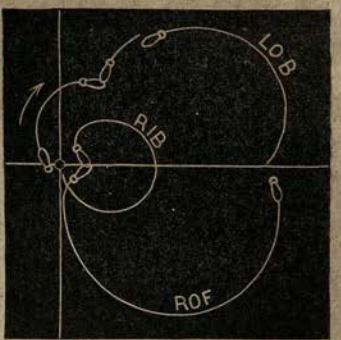


FIG. 135.

Once back and forward, and inside forward centre three.—In this the left foot is put down on the inside edge, and the turn of the inside forward three made on the near side of the centre.

Once back and forward, and inside forward off centre three.—This is similar, the turn being made on the off instead of the near side of the centre.

Once back, back centre three.—In this, the outside back is continued to the centre on the near side, when the turn places the skater on the inside forward.

Once back, back off centre three, is a back centre three turned at the off side of the centre.

Once back, and inside back centre three, and *once back, and inside back off centre three* will be understood as consisting of back inside centre threes turned at the rear and off sides of the centre respectively.

I have now given the calls by which all the centre and off centre threes can be skated. By substituting the word bracket for the word three, all the centre and off centre brackets can be called; but whether they will be skated is another matter, as they are all extremely difficult to skate at the pace requisite to bring the skater back to the centre after the turn has been effected.

Once back and forward, off meet, and forward three.—In this, the skater runs to the centre on the outside forward as though

he were going to skate a forward off pass, but arrived at the centre he puts down his left foot and skates a forward three which brings him back to the centre.

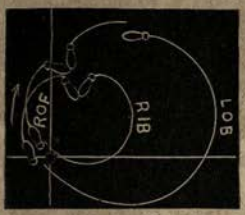


FIG. 136.

Once back, off meet, and forward three (fig. 136).—This was one of the favourite figures in the early days of the Skating Club, and it is a very effective one, as the skater and his partner run together to the centre on the off side on the outside back, and when they are on the point of colliding back to back, each shoots off on the outside curve which begins the forward three.

Once back, off meet, and back three.—The back three here skated is not so effective as the forward three of the last figure.

Once back, meet, and inside forward three (fig. 137).—This is a delightful figure to skate. The skater runs to the centre on his near side, and arrived there he turns the body so as to come face to face with his partner, and then placing down the other foot, he skates the inside forward three.

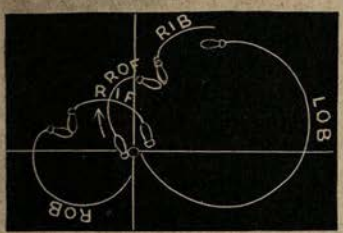


FIG. 137.

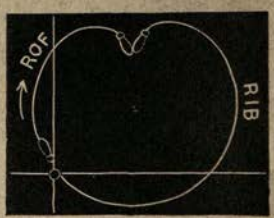


FIG. 138.

Forward three (fig. 138).—This figure is usually the first one taught to beginners of combined skating, but I think a 'once back and forward,' or a 'once back and forward three,' is a better figure, as a forward three to a centre is a very difficult movement in itself, and it does not teach the novice whereabouts in the circle the turn of the three which commences the

once back is usually made, as the turn in the three when skated as a figure, is made at a somewhat different point to what it is when skated as part of a once back. In the single three, the outside forward is dwelt upon longer than in the outside which begins the three of a once back. I have in a former chapter described the method of skating threes to a centre, and therefore need only add here that a man who can really execute this movement in good form has conquered one of the great difficulties of combined skating.

Forward two turns (fig. 139).—This movement skated to a centre is very difficult and is a great test of good skating, and many men make a practice of devoting five or ten minutes to skating it every day when they first come on the ice, feeling that if they can skate it, making the curves between the turns of equal length, and making the turns clean without any scrape and yet coming true to the centre, they are in good form and equal to skate anything that may be called.

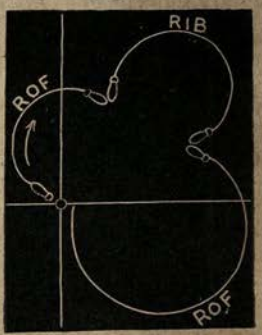


FIG. 139.

Forward three turns.—To the uninitiated three turns would seem to be a greater undertaking than two turns, but as a fact the third turn, by bringing the skater on to the inside back, places him in the familiar position learned in the forward three. The second turn being the most difficult one of the three turns, renders the subsequent curve of outside forwards hard to hold to the centre, and this difficulty is at once relieved by the third turn.

Forward three, and back three.—In this, the back three is taken up by the left foot when the tail of the forward three has been sustained for some time. The forward three should occupy one half of the figure, the back three the other half.

Inside forward three and forward three alternates well with the last figure.

Inside forward three, and inside back three bring in the difficult inside back turn, and great care has to be taken to insure coming in true to the centre.

Once back, and forward two turns ; once back and forward, and inside forward two turns ; once back, back two turns ; once back, and inside back two turns will all be readily understood, and of course the caller may substitute three or more turns in place of the two ; but too many turns, done consecutively in a figure, do not look well.

Once back and forward, meet, and forward two turns.—In this, the near side of the centre is gained on the outside forward when the left foot is crossed over the two turns skated.

Once back, off meet, and back two turns.—This alternates with the last figure, and both of these figures will be met with again when we come to the 'Boomerang' series of figures.

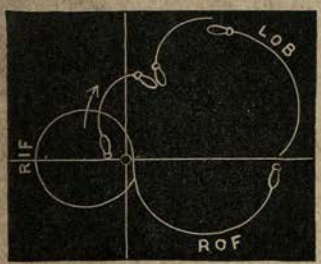


FIG. 140.

Once back and forward, centre change (fig. 140).—In this figure, the skater runs to the centre on the outside forward, and changing the edge to inside forward on the near side, completes the circle.

Once back and forward, and inside forward, centre change.—This is similar in character. The only difference is in adding with the other foot another curve, consisting of inside edge, on which the centre is gained when the change is made to outside which is continued round to the centre.

Once back, back centre change.—In this the change at the centre is made from the outside to the inside back.

Once back, and inside back, centre change.—This again is simply adding another stroke consisting of inside back, and changing at the centre from that to outside back.

In all the centre changes, the change of edge is effected on

the near side of the centre, and in all the off centre changes on the far side.

Once back and forward, off centre change (fig. 141); *once back and forward, and inside forward, off centre change; once back, back, off centre change; once back and inside back, off centre change* will be readily understood.

Once back, and forward centre change Q (fig. 142); *once back and forward, and inside forward centre change Q; once back, back centre change Q; once back, and inside back centre change Q* will also be readily understood, as the term Q being added, simply means that a turn is made after the central change has been effected.

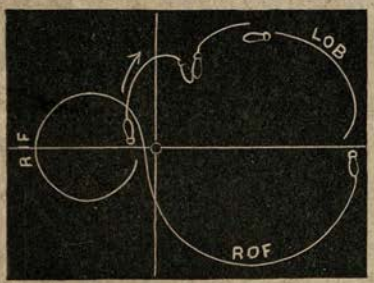


FIG. 141.

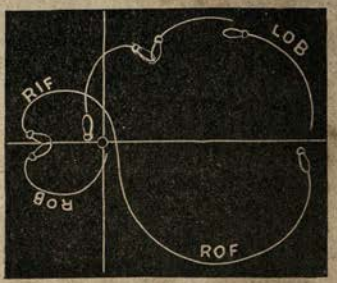


FIG. 142.

In the same way the above four figures, but having the change at the off side of the centre, will be called: *once back, and forward off centre change Q; once back, and forward, and inside forward off centre change Q; once back, back off centre change Q; once back and inside back, off centre change Q.*

Once back, and forward centre turn Q (fig. 143); *once back and forward, and inside forward centre turn Q; once back, back centre turn Q; once back, and inside back centre turn Q,* are figures of a similar kind. In the centre turn Q, the change is effected before the centre is reached, and the turn of the Q made at the centre on the near side. Everyone skating the figure must take care to imitate his partner in making the half circles which precede the turn the same size and of the same

amount of curvature, and this can only be accomplished by everyone watching his partner.

The off centre turn Q's differ from the last only in having the turn executed on the off side of the centre. They are called as follows : *once back, and forward off centre turn Q* (fig. 144) ; *once back and forward, and inside forward off centre turn Q ; once back, back off centre turn Q ; once back, and inside back off centre turn Q.*

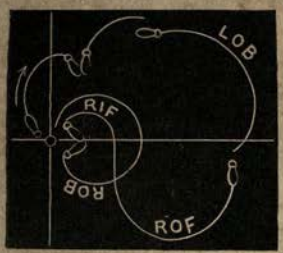


FIG. 143.

The next set of Q's is by far the hardest of any, and a great deal of attention is necessary to ensure the curvature executed by each skater being similar to that skated by the other men composing the set, and this is essential as the whole of the Q is skated before coming to the centre. With four

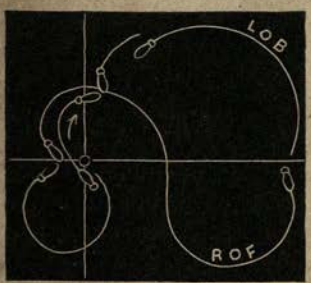


FIG. 144.

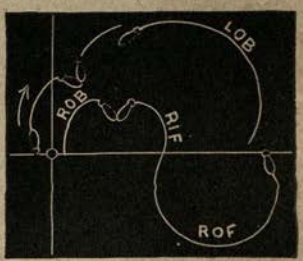


FIG. 145.

really good skaters they are probably the prettiest of any of the series. They are called as follows : *once back, and forward Q* (fig. 145) ; *once back and forward, and inside forward Q ; once back, back Q ; once back, and inside back Q.*

All the above Q's can be varied by prefixing to the term 'Q' the word 'reverse,' when they become reverse Q's ; and as before explained, a reverse Q consists of a turn followed by

a change of edge. As a rule, these reverse Q's are far more difficult to skate in combination than the Q's.

The turn which precedes the change, places the skater somewhat hard on the edge, and renders accurate skating to the centre a matter of considerable difficulty; but they are very pretty figures, and are quite worth the time which must be expended on their acquisition. They are called as follows: *once back, and forward reverse centre change Q* (fig. 146); *once back and forward, and inside forward reverse centre change Q; once back, back reverse centre change Q; once back, and inside back reverse centre change Q.*

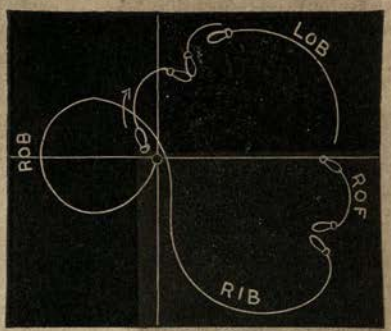


FIG. 146.

The forward reverse Q's are more difficult to skate in combination than the back reverse Q's, as in the former the partners are running to the centre on a back edge, and, consequently, to avoid collision, the curves just before the change at the centre have to be very accurate.

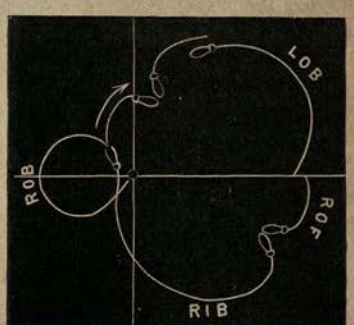


FIG. 147.

If it is desired to effect the change on the far side of the centre, the word 'off' has to be prefixed to the word 'reverse,' and the four calls will be: *once back, and forward, off reverse centre change Q* (fig. 147); *once back and forward, and inside*

forward, off reverse centre change Q; once back, back off reverse centre change Q; once back and inside back, off reverse centre change Q.

The reverse centre turn Q's are very pretty figures. Take, for example the *once back, and forward reverse centre turn Q and forward* (fig. 148), in which each skater runs to the centre on his own side on the outside forward and then makes the turn, and the subsequent change taking him away from the centre, another stroke is necessary to bring him back, and as this extra stroke brings him to the centre on the left leg he cannot repeat the figure on the left, but by skating *once back and forward, and inside forward reverse centre turn Q and forward* these two figures can be alternated.

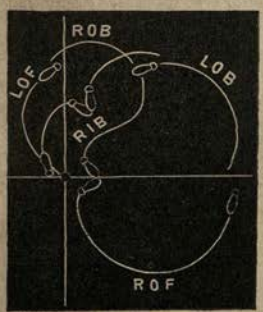


FIG 148.

The effect of all the skaters running together to the centre, then making the turn and going out again on the change, is very effective, and to avoid collision accurate skating is required.

Once back, back reverse centre turn Q and forward; once back, and inside back reverse centre turn Q, and forward.—These four reverse centre turn Q's can also be skated as off reverse centre turn Q's, when the skater will make the turn on the off side of the centre. They are pretty figures, but not so effective as the reverse centre turn Q's. The calls will be: *once back, and forward off reverse centre turn Q and forward* (fig. 149); *once back, and inside forward off reverse centre turn Q, and forward; once back, back off reverse centre turn Q, and forward; once back, and inside back off reverse centre turn Q and forward.*

If instead of the ordinary Q turn, a bracket be substituted the Q's become bracket Q's, and the above series of centre change and centre turn Q's would have to be called with the

word 'bracket' before the term 'Q'; for instance, *once back, and forward centre change bracket Q*, and so on through the series of centre change and centre turn bracket Q's, and reverse centre change and turn bracket Q's.

If it is intended to skate this series of Q's with rockers or counters instead of the ordinary turn, the word 'rocker' or 'counter' must be inserted before the term 'Q.' One example will suffice: *once back, and forward centre change rocker Q; once back, and forward centre change counter Q*, and so on through the whole series. Thus the number of Q's which can be

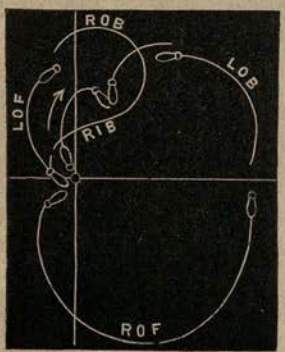


FIG. 149.

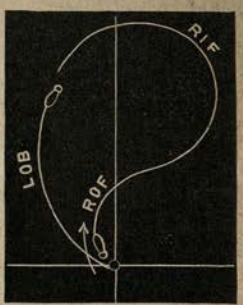


FIG. 150.

skated to a centre amounts to the appalling total of 128, and still there are many more which occur in the Boomerang series of figures. What would the original members of the Skating Club, whose figures were confined to forward threes, once back and forward, once back off meet and forward three, and once back meet and back and forward three, say if they could take a peep and see what their original figures have grown into in consequence of the enormous development of figure-skating?

Forward change out, and forward in (fig. 150).—This is the first of a series of figures in which the skater goes out from the centre without circling round it, and consequently returns to

it at the end of the figure. From their resemblance to the motion of the Boomerang they are known as the Boomerang series, and they always have the word 'out,' implying that the figure is to be skated out from the centre, and also the word 'in,' implying that the skater has to return to the centre. The word 'in' is not really necessary, but it stamps the character of the figure as a going out and coming in to the centre without circling round it, and therefore I retain it in the calls. Any of the Boomerang figures are useful for the purpose of allowing the skaters in a figure composed of eight or ten men to steady themselves after being somewhat confused and out of place through skating a difficult circular figure, and the one usually selected is the simple figure of forward and forward three out and forward in. This enables each skater to give and take a little, and so they all arrive back at the centre in their proper places; and it is one of the elements of good calling that the caller should watch how the figure is going, and if from difficult movements which he has called he finds that there is any confusion he should at once call a simple figure such as the one mentioned above, thus enabling the other skaters to steady themselves. Another point the caller should remember is this: he is probably asked to call because being in the habit of calling he has all the calls at his fingers' ends, but he must remember that the chances are his team is not so well up in the names of the figures as he is, and if the call be a long one which necessitates the skaters coming to the centre and again going away from it, he should give the call for that portion of the figure which brings the skaters to the centre, and then as he is approaching the centre call out the remainder of it.

In the *forward change out, and forward in*, the skaters cross each other at the centre, and make a curve of outside edge out from the centre, and change to inside, which when continued some way brings them facing the centre, but some way from it, when the left is put down on the outside forward, and the centre gained on it.

Inside forward change out, and forward in is similar, the start being on the inside instead of the outside, and the skaters crossing each other at the centre left shoulder to left shoulder.

Once back, back change out, and forward in (fig. 151).—In this the once back is skated, not as a circular movement but out from the centre, and the change effected from the outside back, and the centre gained on the forward outside of the other foot. A portion of this figure is used when it is desired to stop the figure; the call then is *once back, back, change out, dismiss.* By the nature of the figure, the skaters are all away from the centre and facing each other, and it is customary for each member when he has made the change to lift his hat, and this ends the figure.

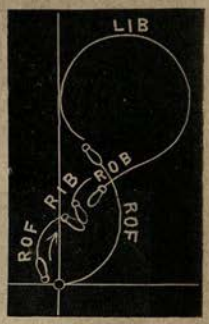


FIG. 151.

Once back, and inside back change out, and forward in.—Here after the once back is skated the other foot is put down on the inside back, and the change skated from that edge.

Forward, and forward three out, and forward in, also requires no description, and as I have before explained, it is the figure usually called when the figure is not going well.

Inside forward, and inside forward three out, and inside forward in is the same figure executed with inside instead of outside edges.

Forward, and forward two turns out, and forward in.—This figure has the same ingredients as the figure *forward off meet, and forward two turns*; but the two turns being now done away from the centre, more latitude is given, and consequently they come easier, and the same observation applies to *once back, and back two turns out, and forward in.*

Forward Q out, and forward in (fig. 152). This will be readily understood from the diagram.

Once back, back Q out, and forward in; once back, and inside back Q out, and forward in also requires no explanation.

Forward reverse Q out, and forward in.—In this, of course, the turn is made first, and the difficulty of the figure consists in coming round after the change is effected on a sufficiently small curve. If the curve is made large, the skater gets a long way from the centre, and the forward stroke which is used for returning to the centre is rendered too long.

Inside forward reverse Q out, and forward in, is of course started on the forward inside edge.

Once back, back reverse Q out, and forward in; once back

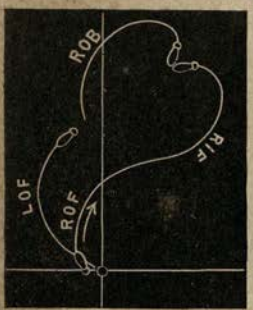


FIG. 152.

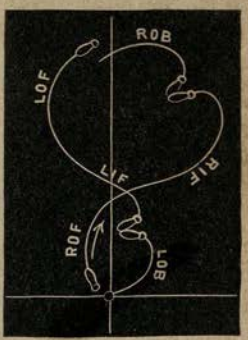


FIG. 153.

and inside back reverse Q out, and forward in, require no description.

Forward Q out, and forward Q in (fig. 153) is simply a forward Q skated away from the centre with the right, and a forward Q with the left bringing the skater back again to the centre.

Forward Q out, and inside forward Q in.—In this figure in order to take the inside forward Q, the skater must hold on to the curve of outside back, which finishes the forward Q until he is facing the centre.

Inside forward Q out, and inside forward Q in; inside forward Q out, and forward Q in will both be readily understood; but in the last-named figure, the tail of the inside

forward *Q* must be brought a good way round before the forward Q in is skated.

Forward Q out, and back Q in.—In this the outside back which commences the back Q is usually taken from the cross.

Forward Q out, and inside back Q in; inside forward Q out, and inside back Q in.—In this the tail of the inside forward Q must be continued a long way round before the inside back Q is commenced. It is an awkward figure to skate, as the stroke from the inside back of one foot to the inside back of the other is a feeble one.

Inside forward Q out, and back Q in.—In this, the stroke commencing the back Q being an outside, taken from an inside back, it is stronger.

Forward Q out, change, inside back Q in (fig. 154).—This is the first figure of a series where two Q's skated on the same foot are joined by a change of edge. When the outside back which forms the tail of the forward Q has been sustained about a yard, the change is effected, and the inside back Q skated.

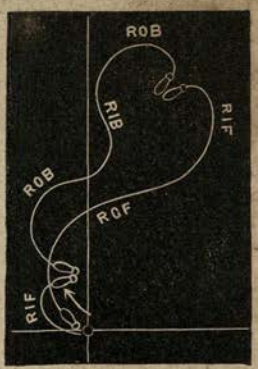


FIG. 154.

Inside forward Q out, change, back Q in; forward reverse Q out, back reverse Q in; inside forward reverse Q out, inside back reverse Q in; forward reverse Q out, change, inside back reverse Q in; inside forward reverse Q out, change, back reverse Q in, will be understood without a description.

Forward Q out, back Q in, centre change, inside forward Q out, inside back Q in (fig. 155).—This is the first example of two Q's being joined to two Q's in a combined figure, and the men composing the set must be very strong on continuous movements before it is practicable to skate these combinations with any certainty.

Inside forward Q out, back inside Q in, centre change, forward Q out, back Q in.

Forward Q back Q out, change, inside back Q, inside forward Q in.

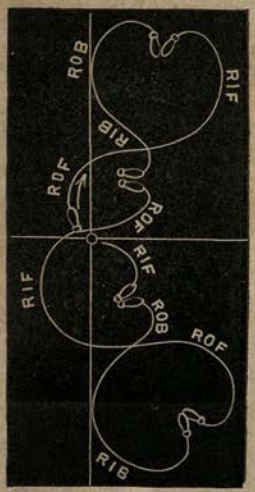


FIG. 155.

Inside forward Q, inside back Q out, change, back Q, forward Q in.

Forward, reverse Q out, back reverse Q in, centre change forward reverse Q out, inside back reverse Q in.

Inside forward reverse Q out, inside back reverse Q in, centre change, forward reverse Q out, back reverse Q in.

Forward reverse Q, back reverse Q out, change, inside back reverse Q, inside forward reverse Q in.

Inside forward reverse Q, inside back reverse Q out, change, back reverse Q, and forward reverse Q in.

I give the calls of the above series of double Q's, but in practice they are very rarely skated. Two men who are strong at continuous figures can skate them on good ice; but they are movements which are more curious than graceful, as a good deal of kicking and contortion must be indulged in for the purpose of getting sufficient motive power.

Forward three, and inside forward change out, and forward in is a pretty figure, and will be found rather puzzling when first tried, as the turn of the three sets up a certain amount of rotation which renders the inside on the other foot rather difficult to take up.

Forward three, and inside forward Q out, and forward in is a very favourite figure (fig. 156).

Forward three, and inside forward reverse Q out, and inside forward in.—This also is a pretty figure, but has not so much 'go' in it as the last.

Inside forward three and back Q out, and forward change in ; inside forward three and back reverse Q out, and forward change in will be readily understood.

The Q's and reverse Q's in the above Boomerang figures can all be varied by skating them as bracket, rocker, and counter Q's.

Once back, and forward Mohawk (fig. 157).—After the once back, the forward is kept out, and the Mohawk being executed the skater runs to the centre on the outside back.

Once back and forward, and inside forward Mohawk.—In this the inside is taken up with the other foot and the curve on

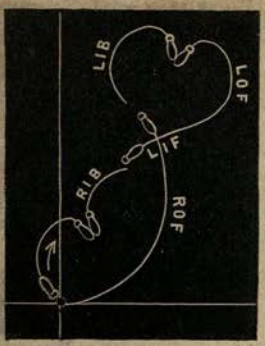


FIG. 156.

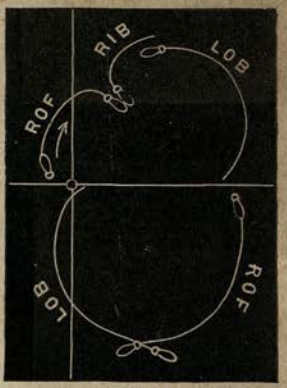


FIG. 157.

it continued until the skater faces the centre, when the inside Mohawk is effected and the centre gained on the inside back.

Once back, and forward centre Mohawk entire (fig. 158).—In this the skater runs to the near side of the centre on the outside forward, and arrived there executes the Mohawk, continuing the curve of outside back till the centre is again reached.

Once back and forward, and inside forward centre Mohawk entire will be readily understood.

Once back, and off centre Mohawk entire (fig. 159).—In this the skater runs to the centre on the outside forwards as though

he were going to skate a forward off pass ; but arrived at the centre he executes the Mohawk just beyond the centre, and consequently he and his partner are at that moment back to back.

Once back and forward, and inside forward off centre Mohawk entire.—The Mohawk figures above described can also be skated as cross Mohawks, but they are not pretty figures, as the turning in of the toes which is necessary to effect them causes the movement to be very ungraceful.

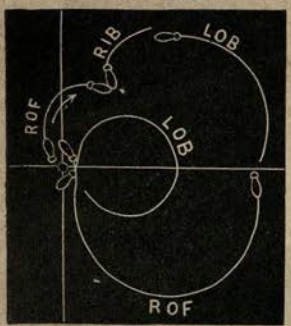


FIG. 158.

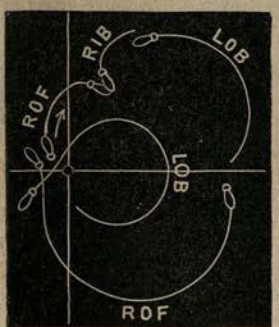


FIG. 159.

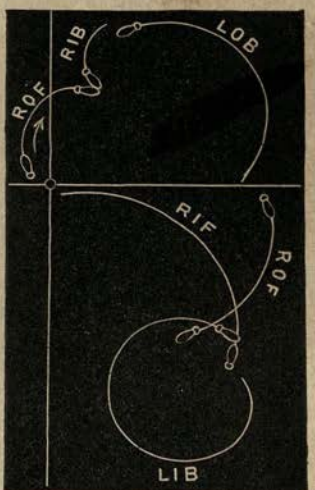


FIG. 160.

Once back, and forward Choctaw, and inside forward (fig. 160).—In this the inside back of the Choctaw has to be continued round until the skater is facing the centre, when a stroke of inside forward brings him home.

Once back and forward, and inside forward Choctaw, and back will be readily understood.

When skated as centre or off centre Choctaws, the extra

stroke of forward becomes unnecessary, as the Choctaw, although changing the nature of the curve from out to in or from in to out, and consequently its direction, does not take the skater away from the centre as it does in the four Choctaw figures above described. The calls when skated on the near side of the centre will be : *once back, and forward centre Choctaw entire* (fig. 161); *once back and forward, and inside forward centre Choctaw entire* ; and when skated on the off side of the centre the calls will be : *once back, and forward off centre Choctaw entire ; once back and forward, and inside forward off centre Choctaw entire.*

Cross Choctaws can also be skated, but I doubt if they will

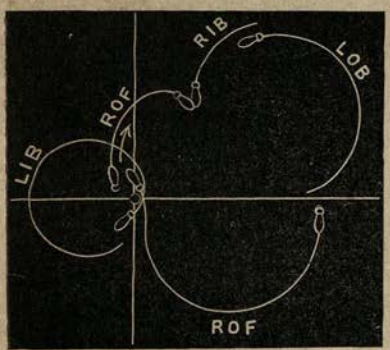


FIG. 161.

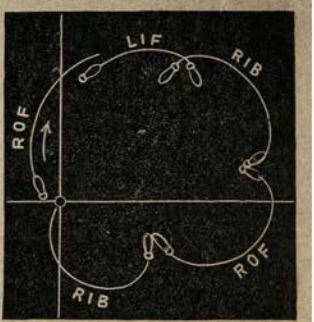


FIG. 162.

ever be much practised, as the position of the body after the cross Choctaw has been accomplished is such as to render it almost impossible to hold the curve.

Forward, and inside forward Mohawk, back inside two turns (fig. 162).—This is a very effective figure, it being almost impossible to see how the inside forward is taken up and the direction of going immediately changed by the inside Mohawk ; and, curiously enough, the inside Mohawk places the skater on the back inside in such a position as to render the back inside turns comparatively easy.

Once back, and forward centre rocker entire (fig. 163).—In

this, the skater runs to the centre on the near side, and the difficulty is in holding the curve of outside back after the turn

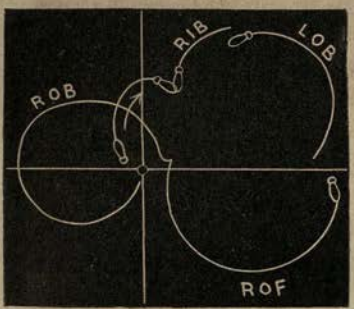


FIG. 163.

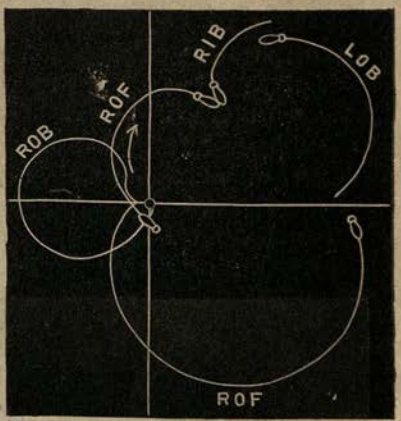


FIG. 164.

has been effected; and having regard to this, a caller when skating with partners who are not strong at rockers, should substitute some call, such as 'and forward,' or 'and forward three' for the word 'entire.'

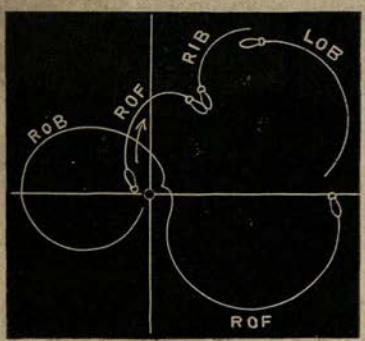


FIG. 165.

Once back and forward, and inside forward centre rocker entire.—In this figure, the difficulty of holding the resulting curve of inside back is even greater than in holding the outside in the last figure, and the strain can be relieved by substituting 'and in side forward' for 'entire.'

Once back, back centre rocker entire.—This is the easiest of all the rockers, and is a great favourite.

Once back, and inside back centre rocker entire.—The calls for a similar series of rockers which are executed on the off side of the centre are the same, with the exception that the word 'off' is prefixed to the word 'centre,' and the turns are then all made on the far side of the centre. I give one example, which will be a sufficient indication for calling and skating the others.

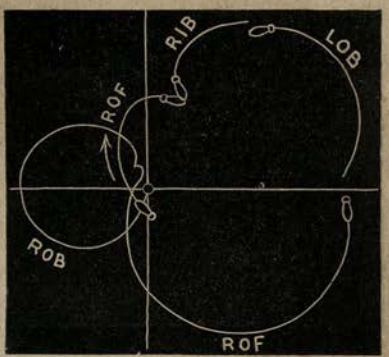


FIG. 166.

Once back, and forward off centre rocker entire (fig. 164).—The counters are called in the same way, substituting counter for rocker. I give one example of each class.

Once back, and forward centre counter entire (fig. 165); *once back, and forward off centre counter entire* (fig. 166).

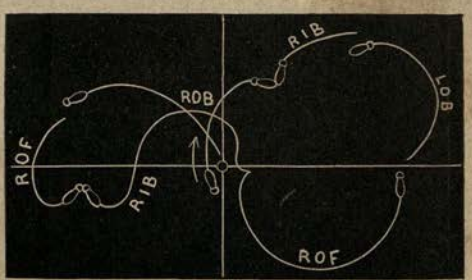


FIG. 167.

Once back, and forward centre rocker, back Q, and inside forward (fig. 167).—To add a back Q to a centre rocker would seem to be piling up the agony, but, as a fact, it is the one occasion when the back Q is hailed as a relief. After the rocker has been skated, a change is effected to inside back, and this change and the subsequent turn gets over the difficulty of holding the back outside curve of the rocker.

Once back and forward, and inside forward centre rocker,

inside back Q and inside forward.—In this figure also, the inside back Q being tacked on to the inside rocker, is a help rather than not.

Once back, back centre rocker, forward Q and forward (fig. 168). — This will be readily understood from the diagram.

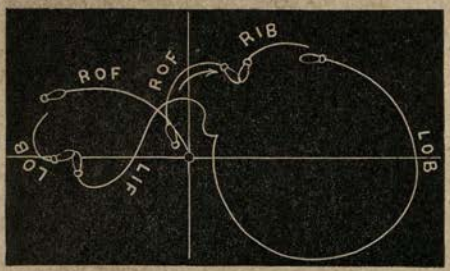


FIG. 168.

Once back, and inside back centre rocker, and inside forward Q, and inside forward.

The above figures can also be skated on the off side of the centre, when the word 'off' must be prefixed to the word 'centre,' and similarly when counters are substituted for rockers.

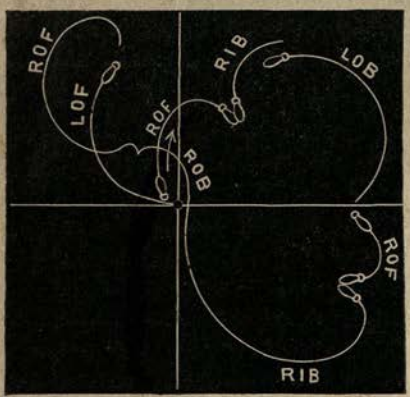


FIG. 169.

Once back, and forward reverse centre change Q, back rocker and forward (fig. 169). — The change in this figure being made at the centre, places the skater on the outside back, from which the back rocker is skated, and the subsequent curve of outside forward brings him to the centre.

Similarly, the figure done with the inside edge, when the call will be : *once back and forward, and inside forward reverse centre change Q, inside back rocker entire.*

Once back, and forward off centre Mohawk, back rocker entire. The Mohawk is here done on the off side of the centre, and the back rocker being executed, the centre is gained on the outside forward.

Once back, back centre rocker, forward Mohawk entire.—In this, the Mohawk is skated from the resultant curve of the back rocker, and the centre gained on the outside back.

Once back and forward, and inside forward three, back centre rocker entire (fig. 170) will be understood from the diagram.

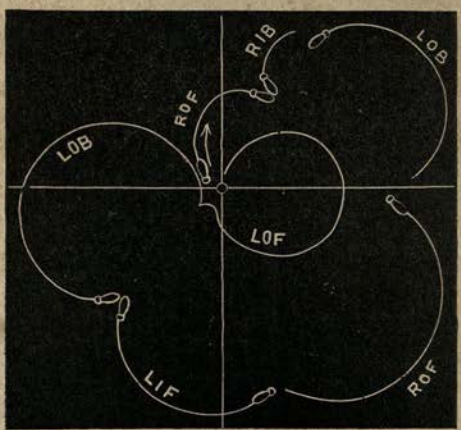


FIG. 170.

Once back and forward three, inside back centre rocker entire. In this, the skater runs to the centre on his near side on the tail of the three, and then executes the inside back rocker.

Once back, back three, inside forward centre rocker entire.—Here the skater runs to the centre on his near side on the tail of the back three, and having executed the inside centre rocker, continues the curve round to the centre.

Once back, and inside back three, forward centre rocker entire. In this, the inside back three being taken up from the outside back of the other foot, the centre is gained on the outside forward, from which the centre rocker is skated.

If it is desired to skate the above figures on the far side of the centre, the word 'off' will have to be prefixed to the word 'centre' in each call. And similarly with centre counters and off centre counters.

Forward three, inside back bracket (fig. 171).—The bracket in this figure comes harder after the three than if a forward bracket had been skated, as the tendency is to continue the rotation in the same direction in which the three is skated; and it will require considerable practice before this can be overcome

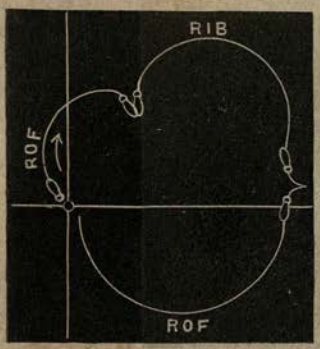


FIG. 171.

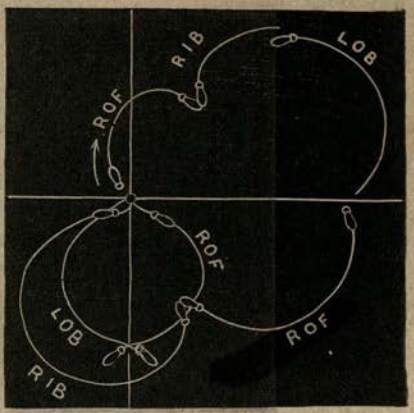


FIG. 172.

and the bracket skated without scraping; and the same remark applies to

Inside forward three, back bracket.

Once back and forward three, inside back centre bracket, forward Mohawk (fig. 172).

Once back, back centre rocker, forward bracket (fig. 173).

Once back, and inside back centre rocker, and inside forward bracket being of a similar character, will be understood without any description.

Once back, and forward centre counter, back rocker (fig. 174).

Once back and forward, and inside forward centre counter, inside back rocker.

Once back, back centre counter, forward rocker will be

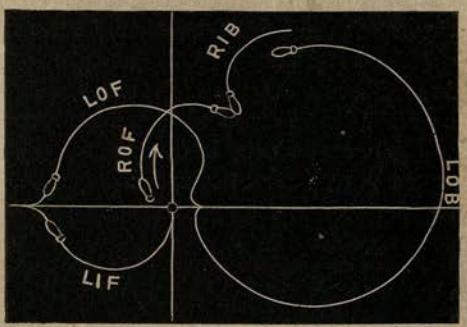


FIG. 173.

understood from their similarity to the figure shown in diagram 174, and these figures can be varied by transposing the rockers and counters.

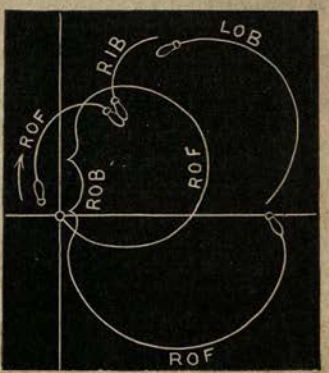


FIG. 174.

Beginners at combined skating will probably view the above list of calls with something akin to dismay when they contemplate the necessity of learning them by heart, seeing that there are some 250 calls given; but they must not be discouraged. When once they get the system of calling well impressed on their minds, the effort to remember the various calls will be much less fatiguing than would at first sight appear. I have not attempted to give the figures in such order as will enable them to be skated first with one foot and then with the other, as this is settled by the rule that when a figure ends on the same foot with which it was begun

it can be repeated on the other foot; when it does not so end, another figure must be interposed of such a character as will leave the skater at the finish, on the leg on which he started the original figure.

Every skater of the Club figures should learn to call, not only to avoid the humiliation of having to confess that he is unable to do so, but also because the fact of calling forces him to think the various figures out; and a man thus accustomed to command will have no difficulty in obeying.

It is not a bad plan for a beginner to take the list of calls and write out a selection for practice each day. I give one set of figures as a guide.

R. Once back and forward.
L. Once back and forward.
R. Once back, and forward centre change entire.
L. Inside forward three, and forward.
L. Once back, and forward centre change entire.
R. Inside forward three, and forward.
R. Forward and forward two turns out, and forward in.
L. Forward and forward two turns out, and forward in.
R. Once back, and back two turns out, and forward in.
L. Once back, and back two turns out, and forward in.
R. Once back, meet, and inside forward three.
L. Once back, meet, and inside forward three.
R. Once back, and forward about.
L. Once back, and forward.
R. Once back, meet, and back, and forward three.
L. Once back, meet, and back, and forward three.
R. Once back, and forward centre three, entire.
L. Once back, and forward centre three, entire.
R. Once back and forward, and inside forward off centre three, and forward.
L. Once back and forward, and inside forward off centre three, and forward.
R. Forward three, and inside forward Q out, and forward.
L. Forward three, and inside forward Q out, and forward.
Once back, back change out, dismiss.

HAND-IN-HAND SKATING

Of late years the practice of two persons, generally a lady and a gentleman, skating hand-in-hand has come into vogue, and opens up a large field of new and delightful skating. The idea, no doubt, originated in the Roller Skating Rink, and the knowledge acquired there has been applied to ice skating. Taking hold of a lady's hand sideways, the right hand being underneath if she be to the right of the gentleman, was found to be an efficient way of so holding her, that with a strong skater she could not fall, and when this help was no longer actually necessary, it was continued as a graceful method of skating such elementary figures as the forward outside, the forward cross roll, and the promenade step; and putting on one side the pleasure derived from skating with an agreeable partner, it is an excellent way of teaching ladies how to skate all sorts of figures that they would probably never otherwise learn, as turns and changes of edge become quite easy when the assistance of a partner is available at any moment that a faulty balance would, if skating alone, render a fall certain. Confidence is thus attained, and the lady who has learned to skate these figures with a partner is able, after a little practice, to skate them by herself. And the last argument in favour of hand-in-hand skating, but probably the strongest, is that figures can be skated in this way that have the appearance of being very difficult, but which are in reality quite easy. It is unnecessary to do more than mention the forward outside and the forward cross roll, as these are perfectly simple, as also is the combination of one skater doing the forward while the other does the back cross roll. In this case, the skaters face each other and do not cross hands. Of course, the skater going backwards will execute a curve on the right, while the skater coming forward will use the left leg.

Another simple figure is the Promenade Step. Holding hands sideways the partners make a forward outside on the right, and when the curve has been continued about a couple

of yards, the left foot is turned in, and placed on the ice behind the right, on the inside edge, the right is at the same moment taken up, and this curve being continued about a yard, the right is again placed down on the forward outside, and the left taken up, this last curve being continued longer, say, some four or five yards ; then the left is put down on the outside edge, and similar strokes executed to the left, and so on (see fig. 175). A more ambitious figure is the 'Three Scud,' or 'Mercury.' The partners face each other, the lady generally starts backwards, the gentleman forwards, as the steering has to be done by the partner who starts in a forward direction. They take each other's hands, the lady's left in the gentleman's right, and the gentleman's left in the lady's right. The gentleman starts on a forward outside on the right, and crossing the left foot over with the ordinary cross roll, he executes a three on the left, and drops on to the back outside of right, crosses the feet with the back roll, and then repeats with a forward on the right, cross roll, and three. While the gentleman is skating the above, the lady executes a back cross roll, and then a three, and then three strokes of back cross roll, and a three, and so on.

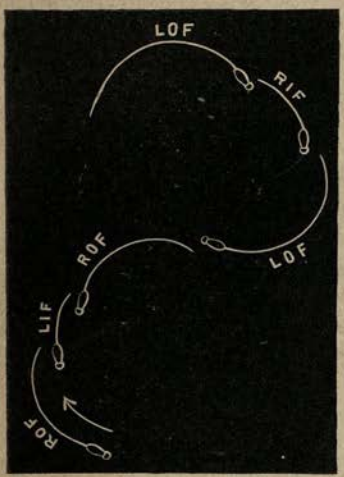


FIG. 175.

In the above figure, which is the Single Mercury, the three is always turned on the same foot, and in the same direction, and the partners should now start on the other foot, so as to make the three in the other direction ; and having learned this, they can try the Double Mercury, in which the gentleman begins with a forward on the right, cross roll, turn, and drop

on to the back outside of right, back cross roll, and then forward three on left, and so on. While the gentleman is doing this, the lady skates a back cross roll, forward three, drop on to the back outside, back cross roll, and so on (see fig. 176). Although a three is said to be made in this figure, it is in reality only a turn, as the tail of the three is very short, the drop on to the back outside being made directly the turn is effected, and this gives great pace, but because of the pace the skaters should keep as close together as they can, and hold themselves upright. If they do not, the rotation imparted by the turn, combined with the pull given by the skater who is going backwards, will cause the unemployed leg to be thrown out in an ungraceful manner. The figure is a very pleasurable one to skate, especially when the space is large enough to enable the skaters to make big bold curves. The steering even in a crowded space can be managed so as to avoid a collision, as the curves can easily be deflected when necessary to avoid some one who happens to be in the line of the natural curve.

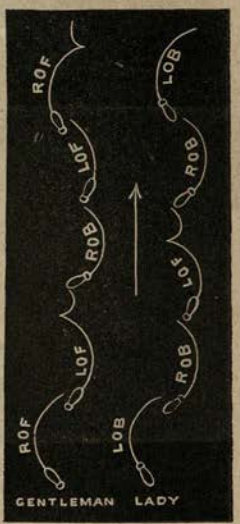


FIG. 176.

The same figure can be skated with the partners holding hands sideways. Then, instead of one going round the other when they respectively execute the turn, they make the turn simultaneously, or nearly so, as the outside partner has to be in advance just before the turn is made, and in fact makes the turn rather sooner than his partner.

The whole secret of skating this and similar figures when holding the hands of a partner sideways, is for the outside partner to be well in front just before making the turn. For instance, suppose the lady is on the right of the gentleman,

and they start with a curve of forward outside on the right, which is the beginning of the three, the gentleman must by a vigorous stroke get well ahead of the lady, and then they can both make the turn easily, drop on to the back outside, do the cross roll, and come forward on the outside of the left; and now the lady, being on the outside of the curve, must get in advance before the turn, and so on.

Another pretty figure, executed by the partners holding hands sideways, is composed of Mohawks. Assuming the lady to be to the right of the gentleman, and that a start is made with the right foot, the forward outside curve is continued some way, when the feet are spread-eagled and the left dropped down behind the right on the back outside; and this curve having been continued about the same distance as the first, the right is brought forward and placed in front of the left on the back inside; and the curve having been held so as to make it about as long as the preceding curves, the feet are spread-eagled and the left put down on the forward inside, and the curve also continued for the same distance as the others, when the movement can be repeated by a forward outside on the right leg (see fig. 177). The forward Mohawk thus joined to the inside back Mohawk causes the skaters to go round in a circle, and the difficulty is to make the curves large enough. This is to some extent remedied by turning the body very much sideways before the change of feet in the Mohawk is effected.

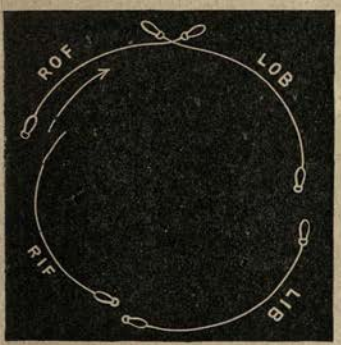


FIG. 177.

If the last stroke of forward inside is eliminated the circular movement is destroyed, but the forward Mohawk is executed on alternate feet, and the figure has a peculiar

appearance, as the skaters appear to be skating strokes which ought to take them in a forward direction, but which in fact cause them to travel in a backward direction. Assuming as before that the start is made on the right, the Mohawk is skated, and then the right is placed down on the back inside and nearly half a circle is skated on this foot, when the left is put down on the forward outside, the Mohawk skated, and the left crossed over on the back inside, and so on (fig. 178).

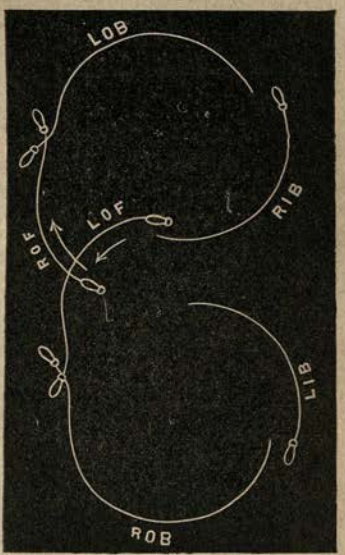


FIG. 178.

We now come to the most fascinating of all the hand-in-hand figures, viz. the forward rocker. When a gentleman asks a lady who has never attempted a rocker to skate one with him, the suggestion is generally looked upon as a joke, as the very term rocker implies a degree of perfection that very few ladies hope to attain; but, although they might not be able to execute this awe-inspiring movement as an individual figure, they will find that it is by no means difficult when attempted with a partner, as holding each other by the hands enables both to continue the resulting curve without any trouble.

Assuming that the lady is to the right of the gentleman, they start with the hands crossed sideways and skate four or six vigorous straight forward strokes, and then with the fifth or seventh strike on to the forward outside of the right foot, on which they continue for some eight or ten yards, at the end of which the gentleman should be well ahead of his partner, when the turn to back outside is made by both simultaneously, and

they glide round to the left on that curve, the pace of which gradually gets slower. After the turn is made the gentleman is behind the lady, but with regard to the direction of going he is rather in advance of her. When the impetus of the stroke is almost exhausted the right hands are disengaged and the gentleman with the left hand gives the lady a gentle pull, then letting go the hand allows her to pass in front of him, and when she has passed the hands are again joined ; but by this passing the lady is now to the left of the gentleman. Four or six vigorous strokes are then made, followed by the large outside curve on the left, the advance to the front of the gentleman, the rocker, and the pass. When a lady and a gentleman have been accustomed to skate this figure together it is quite alarming to note the apparently reckless pace at which they do it ; and the unexpected angle at which the skaters come off after the turn of the rocker is very curious to watch (see fig. 179). The thick line indicates the figure skated by the lady, the thin line that of the gentleman.

FIG. 179.

I give illustrations of the three positions while skating this movement. Fig. 180 shows the skaters on the forward outside edge just previous to the turn ; fig. 181 shows them on the outside back just after the turn, and fig. 182 illustrates the change of hands just after the lady has passed in front of her partner.

Three or even four skaters can skate this figure together. Say they start as 1, 2, 3, 4, No. 1 being on the left of the line, and the rocker being done on the right foot. Just before the turn No. 1 must be in advance of No. 2, who again must be in front of No. 3, and No. 3 must precede No. 4, or the turn cannot be effected. When the velocity of the curve of back

FIG. 180.

FIG. 181.

FIG. 182.

outside is nearly exhausted, No. 1 pulls No. 2, No. 2 pulls No. 3, and No. 3 pulls No. 4, and thus No. 4 passes Nos. 3, 2, 1. No. 3 passes Nos. 2 and 1, and No. 2 passes No. 1. They are thus counter-marched and so enabled to repeat on the left foot (see frontispiece); but when more than two persons skate this figure, a great deal of practice together is necessary before the passing can be effected without a scramble and a clutching at each other's hands, which is by no means pretty to look at.

After three or four strong straight forward strokes to get up speed, two persons holding hands sideways can skate large Q's together. Assuming that the lady is to the right she must, while on the curve of forward inside edge which precedes the turn, get well in advance of the gentleman, otherwise he will be unable to make the turn. When the turn is effected both are going backwards on the outside back, and when the impetus is almost exhausted, the pass is effected as in the forward rocker, and the movement repeated on the other foot. Most people find this a more difficult movement to skate together than the forward rocker, and the probable reason is that the lady has to be in advance previous to the turn, and it frequently happens that she is not sufficiently in front, consequently both she and her partner have a difficulty in making the turn. These Q's can also be skated in the same way, but without the lady passing in front of the gentleman; but then, of course, as the hands are not changed the gentleman will have to be in advance before the turn, when the Q is executed on the left foot.

Q's can also be skated by a lady and gentleman in quite a different way. Instead of holding hands sideways, they face and each holds the other's right hand only. The one who is going forward executes a forward Q on the right leg, while the one who is going backwards skates the back cross roll, beginning on the left leg; when the turn which completes the Q is made the right hands are disengaged and the left hands joined, and the one, who to start with was going backwards is now

coming forwards, and executes a forward Q on the left leg while his partner is skating a back cross roll, and so on. The skater going back on the back cross roll, can give a pull to his partner, which brings him round on a change of edge and turn, with a swish that is quite delightful. If it is wished to change the feet on which the Q's are skated, it is only necessary for the skaters to interpolate a half-circle by means of the cross roll; but it must be remembered that whenever the skater who is coming forward, executes the forward Q on the right, the right hands are joined, and, of course, the left hands if on the left (see fig. 183).

Partners holding hands sideways can skate Q's and reverse Q's together. One executes a reverse Q while his partner skates a Q. The serpentine line backwards, which follows the turn of the reverse Q, will correspond with the serpentine line forwards which precedes the turn of the Q. This figure is a very effective one, and is quite worth the practice necessary to make it go smoothly (fig. 184).

Almost all the Club figures can be skated by two persons holding hands sideways, but a great deal of practice is requisite before the knack is acquired of getting forward previous to a turn. If a turn is to be executed to the right on the right foot, the left-hand partner must be well to the front, but if to the left on the left foot, the skater on the right hand must push to the front. The great difficulty is to keep the resulting curves of turns sufficiently large. The partner who is in front almost involuntarily pulls his partner, and brings him round on a small curve. The way to correct this is to execute the turns with great deliberation, and to make as little use as possible of the hold on the partner's hands. The facility of skating these hand-in-hand figures should be acquired by all good skaters, as they can, by teaching them to ladies, afford great pleasure, and at the same time convince the timid that threes, Q's, rockers, &c., are not such impossible figures after all; and the probability is that a lady who has learned how to execute them with a partner (and with a strong skater she can do this without

difficulty) will try to skate them by herself, and they may therefore be the means of causing her to acquire some of the most difficult

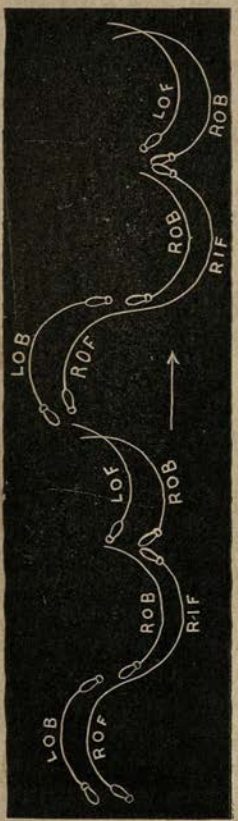


FIG. 183.

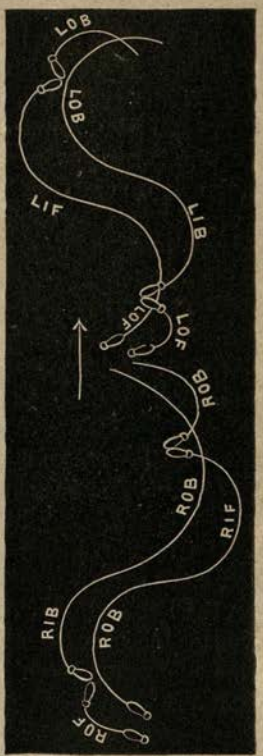


FIG. 184.

figures which, without the confidence given by skating them with a partner, she would never have attempted.

ROLLER-SKATING

Ice-skating is admitted by everyone to be a splendid form of exercise ; and yet people, especially delicate people, run great risk of catching cold by taking such strong exercise with the temperature perhaps 10° or 12° below freezing point, and with perhaps a biting east wind blowing half a gale. Yet it never seems to occur to them that they can indulge in the exercise which they love, in a covered rink and without any of the drawbacks that attend ice skating. Looking back to the time when Mr. Plimpton first introduced his roller-skate, and remembering the madness (for one can call it nothing else) that seized on everyone, old, young and middle-aged, and filled the rinks with crowds of people who seemed perfectly happy if they could simply skate round and round the rink floor, it seems incredible that the pastime should have so utterly died out. There were several reasons why this happened, and the principal one was the absence of proper regulations in the public rinks. So frantic were the ladies who were bitten with the mania, to attain proficiency, that they would accept the proffered assistance of any stranger who seemed capable of helping them ; and if the stranger who offered his help was a good skater, and if the lady could not skate at all, the help given was so material that a feeling of gratitude was the result, and an acquaintance, and possibly an undesirable acquaintance, was thus formed in a way wholly contrary to the recognised social rules. Again, the great pleasure in roller, as in ice skating, is experienced during the period of learning ; and if the summit of a skater's ambition was attained when he had gained the power of rattling round and round a rink, either alone or hand-in-hand with a partner, the learning was soon over, and it was realised that simply going round and round was monotonous, and yet this was all that ninety out of a hundred rinkers ever attempted. Some of them tried no doubt to negotiate a three, and probably came to grief, and declared that it was not a bit like doing the same thing on ice, and so all progress in the way

of figure-skating was stopped ; whereas, if they had persevered, they would have found that, although infinitely more difficult, almost all the figures skateable on ice are possible on rollers.

They probably tried to turn the three that brought them to grief exactly as on ice, forgetting that an ice blade, being the segment of a circle, has a universal pivot, while with the roller-skates there are only two fixed pivots—viz. the toe and heel wheels—and that before turns can be made the balance must be so adjusted as to accommodate itself to one or other of these fixed pivots. Then, again, for those who could skate most of the known ice figures on rollers, one great pleasure was denied —viz. the skating of Club figures in combination with others. As a rule the rinks were not big enough to allow four or more skaters to monopolise the greater part of the floor, and rink managers discouraged a form of skating that interfered with the more profitable crowd of runners round. But still, with all these drawbacks, it is quite wonderful that roller-skating is not more practised. It is splendid exercise, probably the best that ladies can take, excepting perhaps horse exercise ; and the beauty of it is, that ladies who imagine themselves incapable of walking two miles at a stretch, will skate miles without feeling fatigued, and at the same time they will enjoy themselves thoroughly. I have always been surprised that medical men, who are often desirous that their patients should take exercise in some form, do not oftener prescribe an hour or two of roller-skating twice a week. Ladies seem to enjoy roller-skating quite as much as ice-skating, and even those who no longer skate will tell you that they would like of all things to skate as they formerly did, but that they do not now skate because all the world has given it up.

There is no doubt but that roller-skating, learned and practised in the right way, is a very great assistance in acquiring proficiency in figure-skating on ice. Some years ago I took a good deal of trouble in teaching a young gentleman to skate figures on rollers, and as he had a natural 'gift' he speedily learned to skate all the difficult movements. He had never

been on ice-skates in his life, and I gave him a pair of ice-skates, and when the frost came, arranged to go down with him to Virginia Water. I was detained, and was obliged to go by a train which started two hours after his. When I arrived at the ice I noticed a little crowd, and having put on my skates I skated up to it to see what was the attraction, and to my astonishment I found that the crowd consisted of people who were watching with evident admiration my young friend executing threes, double threes, Q's, and grape-vines, all of which he had learned on rollers. He informed me that for the first half-hour he could do nothing, but I had told him to work at the cross roll, and this he did, and having at the end of half an hour mastered it, all the other movements which he had learned on rollers came to him with ridiculous ease. How often it happens that ladies who cannot skate, watch with envy those who can, and long to do likewise, but they say to themselves, 'With the little frost we have in England it would be impossible to learn to skate like that,' and they give up the idea; but if they practised on rollers, they would not only enjoy the exercise, but would be acquiring the aptitude of doing difficult figures on ice.

There have been many attempts at various times to produce a roller-skate, but none of the inventors of these crude mechanical substitutes for ice-skates were mechanics, and the credit of inventing a roller-skate on which curves and turns could be effected as on ice is due to Mr. James L. Plimpton, of New York. The action of his skate was quite different from anything that had preceded it, the cramping of the wheels by means of an inclined axis at the toe and heel being, I believe, a new mechanical motion. The principle of the skate is the convergence of the wheel axles to the side on which the skate is rocked or tilted so as to run the skate in a curve, and the means Mr. Plimpton makes use of for effecting the motion consist of an inclined axis attached to the foot-stock, one at the toe and one at the heel, and on which the frame carrying the wheels oscillates.

If the axis is flat, the convergence of the wheel axles will be small, and then only large curves can be skated, but if the axis is given a greater inclination there is a greater convergence of the wheel axles when lateral pressure is applied to the foot-stock, and consequently small as well as large curves can be skated; but then the balance is more delicate, and beginners should use skates having the axis flat. There were hundreds of patents taken out for roller-skates, all imitations and piracies of Plimpton's principle, and the amount of ingenuity in getting mechanical equivalents to work his idea was quite extraordinary. While his patent existed, inventors devoted themselves simply to the task of trying to 'get round' the patent, but since it has run out attempts have been made at *bonâ fide* improvement. One of the most noticeable of these is the application of ball or roller bearings to the wheel axles, and there is no doubt but that these bearings greatly diminish friction, and so cause the skate to run more easily. Many people fancy that the balance on roller-skates is quite different from that on ice-skates, forgetting that the wheels are simply the means of locomotion, and not perceiving that the balance is effected by the oscillation of the wheel carriage on the rounded edges of the inclined axis. The only real difference is, that with the ice-skate the ankle may be bent outwards and the skate forced in a curve opposed to the true balance, but with the roller-skate this is not possible, as the wheel axles *must* converge to the side on which the pressure is applied. A person putting on rollers for the first time naturally inclines his ankles inwards with the result that the wheels converge to that side, and the skater's toes run together in the most embarrassing manner; but a little practice soon gets over the difficulty, and the learner finds that it is much easier to acquire the ability to skate 'straight forward' on roller than on ice skates, but he must not from this run away with the idea that figures are also easier. In consequence of there being only two fixed pivots, the toe and the heel wheels, on which turns can be made, all turns are difficult to execute on rollers.

Over and above the necessary slewing round of the body previous to the turn, the great secret in skating turns is to raise the toe or the heel, as the case may be, only just enough to enable it to be swung round clear of the floor. If either the toe or the heel should be raised more than is necessary, the balance, on the curve which follows the turn, becomes more difficult.

Roller-skating is possible on a comparatively rough surface, as demonstrated by the small boys on the asphalte streets ; but if it is to be really enjoyable not only must the skate wheels run freely and truly, but the surface must be as perfect as possible. Asphalte is not a good medium. It is never perfectly level. It is soft, and consequently heavy in warm weather, and frequently greasy, and therefore slippery in damp or frosty weather. Marble slabs carefully laid and cemented form probably the most perfect medium for rollers, but this kind of floor is very expensive, and is a fixture. The floor which is the best adapted to country houses, inasmuch as it is not only excellent for rollers but is very good for lawn tennis, and it can also be used for dancing, is made of strips of hard red pine wood an inch to an inch and five-eighths wide. When a log of red pine is sawn into these strips, it will be seen by looking at the section of a log (fig. 185) that each strip can be arranged so as to ensure the edge of the grain being uppermost—in other words, that no strip has the grain of the wood flat or parallel to the surface. The floor is made by being put together in sections, and each section consists of eight or ten strips, say ten feet long, and at the back of each section battens are laid across diagonally about four inches apart, and these are screwed or nailed with round nails to the strips. The battens being diagonally placed across the strips, the section will open and shut like a parallel ruler. The ends of the battens project so as to enable the section to interlock, and the butt ends of each

FIG. 185.

section being properly squared, are grooved, and when one butt end is placed flush up against another, an iron tongue is driven into the groove, and the butt ends are thus prevented from springing. The floor is laid on an ordinary floor, and the sections are laid down, beginning from the outsides of the rink and meeting in the middle. These two middle sections are not interlocked, but a strip of pine wood is placed on the ends of the protruding battens, and screwed down to the floor underneath, and the screws in this batten are the only ones necessary in the whole floor. If in very hot weather the floor opens at all, a wedge driven in between the wall and the floor tightens it all up. The wear to be got out of floors made and put down in this way is astonishing. The floor of the Crystal Palace rink was put down in 1876, and it is still apparently as good as ever.

Having regard to the expense incurred by country gentlemen in providing various ways of amusing their guests, it has always struck me that a top-lighted building, large enough for lawn tennis, and having one of these floors, would be a delightful adjunct to a country house, as in such a building skating, tennis, dancing, fencing, and gymnastics could be indulged in at times when the weather rendered outdoor sports impossible.

The outside edge, which is so difficult to acquire on ice, is comparatively easy on rollers, as the slightest inclination of the foot-stock to the right or left causes the wheel axles to converge to the side on which pressure is applied, and consequently the skate must run in a curve. The directions as to the position in which the feet should be put down, and as to the twisting round of the body previous to the turns, given in the chapters on ice-skating, are all applicable to rollers; but it is very essential that the skater on rollers should hold himself very upright, as if he is leaning either forward or backward he puts undue pressure on the front or back set of wheels and so causes great friction, whereas with the body quite upright the weight is distributed equally on the toe and heel wheels, and friction is

reduced to a minimum. The turns are habitually made on the toe and heel wheels in the same way as similar turns are made on the toe or heel part of the ice-skate, but after a great deal of practice turns on rollers can be made much more smoothly if executed on the set of wheels which will be in front when the turn has placed the skater on the resulting curve. For instance, I will take the second turn of the double three as an example ; the skater is going to make a turn from inside back to outside forward, consequently on the resulting curve of outside forward the front wheels will be leading, and if the turn be made on the front wheels the effect is exactly as though he were skating this difficult turn on ice.

Skated in this way on the front wheels this turn is infinitely more difficult than when skated on the back wheels, but a perfectly clean turn is effected, and without the clatter which accompanies the movement when done on the heel, by the toe wheels coming in contact with the floor after the turn is accomplished. The back Q, in which this turn comes, looks infinitely better if the turn is effected on the toe-wheels.

Rockers, counters and brackets all come easier on rollers than on ice, simply because when the turns are effected the resulting curves can be held, the slightest inclination of the foot-stock forcing the skate to run in the desired curve. For the same reason men who cannot skate a spread-eagle on the ice can execute it on rollers, even to the extent of having the centre of the circle being described at their backs. All the grape-vines can be skated on rollers as easily as on ice, care being taken in raising the toe or heel set of wheels according to the direction of going. Loops also are possible on rollers, but they are very difficult, especially the forward outside loop, which should be done on the toe. The back outside loop, which is skated on the heel set of wheels, will require weeks of practice, but it is quite possible to execute it with certainty, and I have seen it skated in the back cross roll with the same precision as on ice.

The inside forward loop is the easiest, and is done on the

heel, while the inside back loop is skated on the toe. Continuous figures are more difficult than on ice in consequence of the position of the body constantly placing the skater too hard on one set of wheels, and so causing friction which has to be combatted by vigorous strokes in the nature of a push-off as described in the directions for learning the one-foot eight on ice ; but anyone who learns continuous figures such as one-foot eights, Q's, brackets, and rockers, and can keep them going on rollers, will find that they come with great facility when he tries them on ice.

A two-foot spin is effective on rollers, and is done exactly as on ice, except that with rollers the toe-wheels of one foot and the heel-wheels of the other are the pivots on which the skater revolves. For instance, if he is going to spin to the left he uses the toe of the left foot and the heel of the right.

FIG. 186.

I have not thought it necessary to go into detail in describing the figures that can be skated on rollers, as with the exception perhaps of crosscuts everything that can be done on ice can be skated on rollers, and as the position and balance of the body on the two forms of skates are identical, all the directions which I have given for acquiring figures on ice are applicable to the same movement executed on rollers.

There is a little figure which is rather curious and which is peculiar to rollers, as it is done on the toe-wheels of both skates and is a species of grape-vine.

The skater raises himself on the toes, and with the chain step passes the right in front of the left, and turning to the right allows the left to circle round it, the two feet describing two loops. When the skater has turned half a revolution the position of the feet is the same as in skating the Pennsylvanian grape-vine, viz. the right will be across the left and the outsides

of the feet in proximity, except of course that the skater is all the time on the toe-wheels only. Resting the whole weight of the body on the right foot, the left continues to circle round it until a whole revolution is made and the feet become disengaged, the result being that a small loop is formed with the right and a larger one with the left (see fig. 186).

In conclusion, let me urge on all who would wish to become good figure-skaters on ice, to look on roller-skating with a favourable eye. Let them be persuaded by one who has worked hard at the rollers, that when they once attain a certain amount of excellence, figure-skating on rollers becomes as great a pleasure as figure-skating on ice, with the additional advantage that every figure acquired with labour on rollers, becomes perfectly easy on ice. Ice visits us but seldom, but a good floor and rollers may be with us at any time ; and such practice as will make a skater on rollers learn and skate in really good form all the various movements that are possible on them, will assuredly tend to make him a first-rate performer on ice.

CHAPTER IV

SKATING AS A RECREATION

By J. M. Heathcote

Rapid motion is pleasant to most of us. Dr. Johnson expressed an opinion that 'riding in a post-chaise was a true source of happiness' (presumably on account of its speed); although time may not be an object, we generally prefer a 'Hansom' to the

more tedious 'growler,' the 'Flying Scotchman' to the Parliamentary train. The cyclist must admit that record-breaking is a factor in his ambition to attain high speed, but his pulse will quicken as mile-stone after mile-stone is passed, while he guides his 'Safety' or his 'Roadster' on the high road; and I need not comment on the ecstasy experienced by the rider who has allowed a free-going horse to extend himself on the flat or across country. But these methods of obtaining rapid locomotion are dependent on mechanical agencies or something beyond our own physical force, and it is perhaps the consciousness of self-reliance that causes the sensuous joy of a straight-away run of ten miles or so on ice to rival the pleasurable excitement engendered by any other form of exercise.

As my chapters will treat of speed-skating only, it is as idle to contrast the indescribable charm derived therefrom with the more varied and subtle refinements of figure-skating as to compare the *manège* with the racecourse, the cinder-path with the ball-room; so if I record instances of jealous contempt which have emanated from enthusiastic exponents of straight-away skating, I do so, not with a view of showing sympathy with a partisan, but to illustrate the quaint humour which may occasionally be found in the expressions of the unlettered athletes of the Fen-country. 'Omne ignotum pro magnifico' is an aphorism inapplicable to the speed-skater who after watching a 'combined figure' threw some coppers on the ice, thinking that no one could make such an exhibition of himself except as a means of earning a precarious livelihood. The withering sarcasm which accompanied the remark, 'Sarve him right,' when an accomplished skater fell in the course of a Pennsylvanian grape-vine, was honest if rude; and the champion who, after gazing for the first time in his life at the performance of a reverse Q, turned on his heels with a shrug of his shoulders and curl of his lip, muttering 'Hm! 'custom'd to ponds and such loike,' showed that many things besides play-acting are 'caviare to the general.'

Speed may be termed the resultant of skill, strength, and endurance, whose influence, though constant, is subtle and intricate; a few general reflections on this subject may be found interesting. The flight of birds may be dismissed as an object of our envy and admiration, but also of our despair. The swift is said to be able to attain the speed of a mile in less than twenty seconds; a pigeon has been known to have accomplished twenty-three miles in eleven minutes; the eider-duck when really under way is almost as speedy; a falcon belonging to Henri IV. of France flew from Fontainebleau to Malta, a distance of 1,350 miles, in twenty-four hours; and other 'couriers of the air' are recorded to have traversed 2,000 miles without rest. Such feats as these are wholly beyond the wildest dreams of humanity. Of quadrupeds, the cheetah (*Felis jubata*), or the black buck (*Antilope cervicapra*), may be cited as the fleetest for a short distance. Our interests in the subject will be especially aroused when we attempt to compare the achievements of the rider, the cyclist, and the skater. We may be certain that the best horse of his year, assuming him, of course, to be a stayer, would leave the skater or the cyclist hopelessly beaten over any course from one to five miles in length, and when we remember that fifty miles have been traversed by a cyclist in little more than two hours and a half, 100 miles in less than five hours and a half, more than 300 miles in twenty-four hours, we may be equally sure that mechanical skill has equipped the exponents of that art with an instrument which has enabled them to sustain exertion for protracted periods without fear of rivalry or even comparison. Implicit reliance can at no time be placed in calculations which are based on published 'records,' as these are broken year after year—I might almost say month after month—but I have endeavoured to arrive at an approximate estimate of the relative speed of these agencies. If we take 1 as the coefficient of speed of a racehorse for one mile, we shall find that 1·3 will very nearly represent that of the trotting-horse, 1·4 that of the cyclist, 1·6 that of the skater. We shall

find that at the end of five miles the racehorse still has a commanding lead, but that the cyclist has overtaken the trotter, an analysis of records giving 7·75 to the former, 7·8 to the latter, and 9·75 to the skater. At the end of ten miles the cyclist will have increased his lead, his figure being 16, against 16·43 of the trotter, 22 of the skater. When twenty miles have been accomplished 32·25 will represent the performance of the cyclist, 35·03 that of the trotter, 44·47 that of the skater, while at the end of fifty miles the skater will be found to have gained considerably with regard to the horse, the cyclist to have shown 'a clean pair of heels' to both; the figures of merit being cyclist 90, trotter 141·4, skater 152·16.

I used the words 'approximate estimate' advisedly, for this analysis of records can scarcely be said to be a fair test of the greatest attainable speed of the skater as compared with that of the cyclist. The latter knows exactly on what day he will run, he can by previous training and practice on the same course with the same machine develop his physical powers to their fullest extent, and he can also undergo that mental preparation which will enable him to know how he can expend his strength to the last ounce without overstraining it. His races are run on a track which is as perfect as human skill can make it, and in a temperature more favourable to exertion than that which may be expected during the prevalence of severe frost.

It is not easy to form a true estimate of the influence of atmospheric conditions on the staying powers of an athlete, but no physiologist will deny that it is considerable. Sustained exertion involves waste of tissue; this is why people get tired. Waste of tissue means combustion of organic matter, energy being converted into heat; this is why people get hot. Combustion is synonymous with oxidation, and the lungs can only supply a limited amount of oxygen; this is why people get out of breath. At a temperature of 30° the radiation of heat from the body is greater than it would be at a temperature of 60°, therefore more oxygen

is required to keep up the normal temperature of the body in a cold than in a warm atmosphere, and a less amount is available to compensate for the waste of tissue caused by exertion.

On the other hand, although the skater may have attained the best possible 'condition' after a course of walking, running, or rowing exercise, his muscles will have had insufficient preparation for the unwonted exertion they will be called on to undergo, and the mental training which alone will teach him when strength should be husbanded, when supreme efforts should be made, cannot but have been imperfect. Skating races are generally run in the afternoon, when the ice is perceptibly softer than it is in the early morning, and upon a track seldom uniform in character throughout, frequently cut up by previous skaters, and often intersected by cracks, which preclude the skater from concentrating his attention on speed, and speed only. Moreover, the races in which the fastest men have competed are almost invariably run either on an oval track, or on a course involving one or more 'right-about' turns. The increase of friction and the unavoidable loss of rhythmic swing in the former of these, and in the latter the loss of speed in turning and the tax on strength in starting after the turn, make the achievement of really good times impossible.

The question may be asked, 'If rapid motion is an element of enjoyment, why should skaters hasten to Holland or the Fens, while a straight course of a mile or more may be obtained on the reservoir at Hendon, within a few miles from the metropolis?' The difficulty of answering this question shows that something more than skating at speed on a track is required for the consummation of the pleasure. Perhaps the ever-varying condition of the ice, a succession of new scenes and objects, the wish to have

Something attempted, something done,

and a feeling analogous to the 'cacoethes scandendi' of the Alpine climber, invest with some romance the anticipation

and reminiscences of a day's journey over a frozen highway.

If the achievement of a long run is a *sine quâ non*, the skater must go to Canada, or to the United States, where, before the first heavy fall of snow, the frozen rivers offer facilities that are not met with elsewhere. Blaine, in his 'Encyclopædia of Rural Sports,' records the accomplishment in one day of a journey on the St. Lawrence from Quebec to Montreal—145 miles—by an English officer. Mr. J. F. Donoghue told me that he and two friends skated on the Hudson from Newburgh to Albany, a distance of ninety miles, in about five hours, after having run in the morning of the same day to Poughkeepsie and back, making in all a journey of 122 miles. Mr. Montgomery, the Hon. Secretary of the American Skating Association, has made expeditions of phenomenal length. These feats are perhaps less marvellous than they appear to be at first sight; for they were for the most part accomplished on an uninterrupted course over good ice, and with 'a wind that follows fast,' but they are scarcely possible in any part of Europe.

At rare intervals the lakes in Cumberland and Westmoreland, Scotland and Wales, have offered a glorious arena for speed-skating, and a panorama of surpassing beauty; but frequent snow, and the great depth of the water, have been found to be prejudicial to pleasant and safe skating. The surface of Windermere was not frozen over in the course of this severe and protracted winter, 1890–91, although many of the smaller lakes—pre-eminently Rydal Water—were covered with ice of the best possible quality.

The Norfolk Broads, the reservoirs and artificial lakes in England are frequently available, but these scarcely meet the requirements of the traveller; and a continuous run is seldom to be accomplished on English rivers, or even our canals. The superintendents of these water-ways endeavour to keep a course open for traffic; and, as long as it is possible to do so, send men furnished with poles in a barge along the canal. These men tilt to each side of the track the fragments of ice ploughed

up by the transit of the barge, and relegate to the dim and distant future the prospects of good ice.

Anticipation of a good day's skating is more likely to be realised by a visit to the Great Level of the Fens, an area of about 1,300 square miles, traversed by four considerable rivers—the Witham, the Welland, the Nene and the Ouse—and intersected throughout with water-ways, some used for draining, some for navigation, which freeze rapidly, and are easy of access. Holme, Peterborough, Boston, Spalding, or Lincoln, on the Great Northern Railway; Cambridge, St. Ives, March, Ely, or Wisbech, on the Great Eastern, are convenient starting points, and anyone who has provided himself with a good pair of running-skates, a spare strap and a gimlet, may promise himself a good day's sport from any one of these places. The country is rich in historical associations, the manners and customs of the *indigènes* will interest the traveller, while the cathedrals of Peterborough, Ely, and Lincoln, the University of Cambridge, the church at Boston, and the Abbeys of Croyland and Thorney, claim the attention of the archæologist and the lover of architectural beauty.

If the ice is in good condition, a strong skater will cover ten miles per hour, including incidental delays, without fatigue, and excursions of from fifty to sixty miles in length have over and over again been made. The longest out-and-home run that has been recorded in England was that of Mr. C. G. Tebbutt, who, with his three brothers, Louis, Sidney, and Arnold, skated from Earith to Wisbech and back, a distance of $73\frac{1}{4}$ miles, in $9\frac{1}{2}$ hours. I have not heard of any other excursion that exceeded in length a trip that I and two other Cambridge undergraduates made in the winter of 1854, from our University along the river Cam to its junction near Ely with the Old West River, and on that water-way to Earith and St. Ives. There we had luncheon and skated back to Cambridge, traversing $67\frac{1}{2}$ miles between breakfast and dinner. In the same winter Mr. L. Ewbank, of Clare College, skated from St. Ives to Denver and back, a distance of more than 60

miles. In this winter—1890–91—two sons of Mr. William Turnill, a Huntingdonshire farmer, skated from Holme Station, *viâ* Benwick, March, and Upwell, to Wisbech, witnessed four races, and returned to their home at Sawtry, taking off their skates at the upper end of Monk's Lode. A good day's work, for the time occupied, including halts, was ten hours, and the distance by measurement 66 miles; they must, however, have traversed more in the course of the day, and an inch of snow and much cat-ice impeded their progress between Upwell and Wisbech, and back—ten or twelve miles—and an adverse breeze retarded the journey homewards in the afternoon of the same day. These feats are by no means remarkable, and longer runs might be—perhaps may have been—accomplished: but winter days are short; a few miles of bad ice, which may be encountered when least expected, will cause not only delay but fatigue; stoppages at mills, locks, and sluices occur at provokingly frequent intervals, and a moderate breeze will retard the progress of even the strongest skater. It may be doubted if the accomplishment of a longer run than has been hitherto achieved would compensate the record-breaker for many disappointments, and the conversion of a pleasure into a toil, so I think that the encouragement of such aims is less interesting than a brief description of expeditions I have recently made, which for beauty of scenery, variety of incident, and facility of execution can scarcely be rivalled.

Huntingdonshire cannot be classed among the counties of England pre-eminently remarkable for beauty of scenery, but that it has a charm of its own would be admitted by any skater who had started with me on December 26, 1890, from Huntingdon and run on the river Ouse past the pretty village of Hartford the Mills at Houghton and Hemingford, to the quaint old bridge and many-gabled houses at St. Ives. Several consecutive nights of hoar frost had covered every leaf, every twig, every blade of grass, even every spider's web, with a coat of rime; the fields were covered with snow, and the white garb of nature enriched by contrast the colours of the mills, churches,

thatched cottages, and other objects of man's handiwork. The ice was strong enough to bear a loaded waggon in some places, unsafe in some, very dangerous in others, and we gave and received information from the many friends we encountered on the ice. Here was Mr. Donoghue with his hands clasped behind his back, gliding with the ease and grace that characterise his movements on ice, there an athlete or two from the Fens about to run in a local race, and members of the rival teams of St. Ives and Bury Fen who were to compete for supremacy at Bandy in the course of the afternoon; with all these we exchanged friendly greetings. Below St. Ives staunch the Ouse presented a novel appearance. The river here is clear and shallow, but the current is rapid, and for a mile or more the mid-stream was open water, but on each side of these 'wakes'[1] was a strip of strong ice varying in width from four or five yards to as many feet, often sloping at a perceptible angle from the bank to the water, often broken by cat-ice, cracks, and rushes, but affording a means of transit perfectly safe, and both easier and quicker than walking on the towing-path. Then followed a glorious run past Bluntisham Ferry to Earith; a chat with a local veteran at a river-side public-house, who spun yarns of 'how he runned agen Jonathan Sharman forty year ago come new-year's day,' and an afternoon's homeward spin, rendered easier by familiarity with the obstacles overcome in the morning.

An excellent day's skating may occasionally be obtained within easy reach of the metropolis on the canal which connects Woking with Basingstoke. Frequent locks at Brookwood and Bisley cause many stoppages between Woking and Frimley, but anyone who puts on his skates at North Camp 'flash,'[2] within a stone's throw of the North Camp Station, on the South-Western Railway, will find a run of at least ten miles interrupted only by one lock—at Aldershot. The scenery is varied and beautiful in its way, and is better seen from a canal

[1] A local word meaning open water in a frozen stream.

[2] A local word signifying a lake adjoining the canal.

constructed at an elevation above the surrounding country than from a river or an artificial drain which necessarily traverses the lowest levels. The banks clothed with heather, gorse, and fern, Cæsar's Camp and the Fox Hills breaking the horizon, the tall dark pines of Pystock Wood overhanging the ice, the 'flashes,' or reservoirs, fringed with drooping reeds and forming a resting-place for many a worn-out and half-submerged barge, and the picturesque bridge and farmhouse at Crookham, present features which appeal to the heart of an artist, rarely to be met with in the interminably straight water-ways of the Fens. Between Odiham and Basingstoke the canal passes through a tunnel, necessitating the removal of skates and a walk of some distance; but when the frost has been severe enough to make the ice safe beneath the many bridges which span the canal, there is no better course to be found within a thirty-miles radius from London.

The reminiscences of such excursions as these, pleasant although they may be, are less varied and less interesting than those of a visit to Holland in time of frost. In January of this year—1891—the present writer, his son, and 'our artist,' accompanied by a young Dutch acquaintance, put on skates at the Central Railway Station, Amsterdam, on the broad surface of the Y. Hundreds of ice-bound vessels, every conceivable variety of sledge drawn by horses, skaters, or dogs, a regiment of Dutch soldiers rifle in hand returning homewards, dismissed from an ice parade, two sturdy boys with skates on their feet having an honest stand-up fight with fists, an angler whose rod and line thickly coated with rime testified to his patience and enthusiasm, could not fail to arouse our interest.

After running a short distance in the direction of Zaandam we turned northwards, and crossing a bank found ourselves on ice so hard and smooth that we wished our blades had been recently ground. A run of ten miles or so brought us to Monnikendam, on the shore of the Zuyder Zee, where we saw a fleet of ice-yachts condemned to inaction by the snow which had recently fallen. Looking eastward we could per-

ceive nothing but a frozen sea save where the horizon was broken by the Island of Marken, but the snow, accumulated by the north-east wind, made skating well-nigh impossible. Having so nearly reached our destination a retreat was not to be thought of, and we traversed two or three miles of snow-field on foot, until a swept track enabled us to run merrily to the island. The gabled houses of Marken, and the picturesque dresses of its inhabitants, are they not written in the pages of 'Baedaker' and visited every summer by thousands of tourists? so I will only make mention of a costume of unparalleled eccentricity worn by a native 'masher.' His feet were encased in wooden sabots, his legs in knickerbockers that could not have assumed such voluminous dimensions without the aid of an improver of some sort, while his head was protected by a tall hat that might have been bought in Bond Street and worn in Pall Mall. In our return journey a favourable wind enabled us to plough through or over the wreaths, billows, and drifts of snow with greater ease and speed, and we reached Monnikendam at sunset, whence a run of fifty-five minutes brought us back to Amsterdam before the twilight had been subdued by the deepening shades of night.

We accomplished another run which was more thoroughly *sui generis* than any of which I have seen a record. A start was made at the gas-works near the Haarlem-plein, Amsterdam, and we ran in an easterly direction by Half-weg to Haarlem, a fresh breeze from the north aiding rather than impeding us. After slowly working a passage through the picturesque town over rough and dirty ice, we turned southwards, and felt the wind, which by this time had freshened to something like half a gale, blowing right aft. The ice was as hard as steel, and generally smooth, but occasional hummocks where the surface had been broken up and had frozen again, frequent patches of cat-ice, long reeds here and there imbedded in the ice, and a spin-drift of powdered snow whirled in eddies round our feet, provoked emotions in our hearts which I will not attempt to analyse. No sail was required, metaphorically

we scudded under bare poles; one of our party did so literally when he fell, lost his hat, and had a stern chase of a quarter of a mile or more before he could overtake it—and the mad excitement of that twenty-mile run from Haarlem to Leyden will never be effaced from my memory. The wind, still favourable, moderated, and we skated rapidly along a canal which led us through groves of oak and beech and brought

Skating in a blizzard.

us, after a run of about ten miles, to the environs of the Hague. I regret that an estimate of our speed is a matter of conjecture, but the distance traversed exceeded forty miles, and the incidental delays caused by ferries, bridges, and more than one wrong turn must have encroached a good deal on the four hours during which we were travelling.

I should feel that I had imperfectly executed the task I

have undertaken if I did not give some account of Whittlesea Mere, once known as our great Southern Lake; once the theatre of ice sports, varied in character, and accessible to all classes; once the delight of the sportsman, the naturalist, the fisherman and the skater, whose avocations have been consigned to oblivion by macadamised roads, and crops of roots and cereals. According to a survey made in 1786, its area was at that time 1,870 acres, its length from east to west three and a half miles, its breadth from north to south two and a half miles; its depth varied from seven to two feet. Subsequent surveys taken by Sir John Rennie in 1835, and by Mr. Walker in 1844, showed a gradual diminution both of the extent and depth of the lake; but until 1850, in which year was consummated that triumph of engineering skill over the laws of nature, the drainage of the Mere, its surface in time of frost afforded opportunities for recreation unparalleled in this country. Little or no agricultural work could be done in severe winter weather, and a general holiday was granted to, or rather enforced on, all except the few who were employed in cutting, carrying and stacking sedge. All were ready enough to enjoy this holiday, and as soon as the ice was reported to be safe, thousands of skaters might be seen converging towards the carnival of fun and frolic, which was held on the broad surface of the Mere, from Peterborough, Holme, Ramsey, Yaxley, and other more distant towns along the frozen ice-ways.

It was seldom that this sheet of ice was uniform throughout. Anyone who crossed the Mere might skate for half a mile or so over a hard smooth surface, known in the country as 'glib' ice; he might next traverse ice frozen where a stiff breeze had ruffled the water, and he would have to struggle as he best could over a rough hummocky surface, which would shake every bone in his body and make his teeth chatter, or perhaps a crack two or three inches wide and extending across the whole Mere might be encountered. These cracks were caused by the expansion or contraction of the ice consequent on a sudden change of temperature, and the disruption of the

surface, and the grinding of the edges one against another was sometimes accompanied by a report which would awake the echoes of a still night far from the scene of action. Another obstacle to progress was cat-ice, formed where water had overflowed the surface, had been there partially frozen, and had then escaped, ashamed of the mischief it had caused ; but the most treacherous, though fortunately exceptional, foe to the skater, was an impalpable dust frozen into the ice, of sufficient tenacity wholly to destroy the 'glibness' of the surface, and to bring even the strongest runners to unexpected grief. The Fenmen, trained from infancy to pioneering on ice, knew how to avoid or surmount these difficulties, and indications of the most convenient routes soon became apparent. These routes generally converged towards some part of the Mere where a race was to be held, and a day seldom passed without an event of some sort being improvised—a new hat, a fat pig, a leg of mutton, or a purse of money being offered as prizes, stewards being elected and authorised to enforce the rules which usually governed these contests.

The short duration of frost in this country offers little encouragement to the sport of ice-yachting, but it is remarkable that the construction of a skate-sail was never suggested as a means of varying the somewhat monotonous repetition of racing in heats. It is as much to be regretted that an arena so suitable as Whittlesea Mere was not then utilised, as that the relative merits of skate-sails now in use, differing widely, as they do, in construction and detail, are not tested at the present time.

A writer who assumed the name of 'Glacianaut' gives an excellent description and illustrations of a sail which he constructed in England more than ten years ago, and found to be suitable either for one or two navigators. His sail is oblong in shape, about 9 ft. 6 in. in length, about 4 feet high, made of unbleached calico. The only spars are a mainyard traversing the centre of the sail lengthways, and two light upright spars attached to each end of this mainyard. The sail is pro-

vided with reef-points, which should be used when it is carried by one skater; when two navigators are at work, both hold the mainyard, one of them being in front of the other. The leader is answerable for the direction, but is under the command of his comrade, on whom devolves the task of trimming the canvas.

In tacking the sail is alternately to windward and leeward of the skater. When close-hauled (say on the starboard tack) the sail being on the lee side of the man, the right or weather foot will be in front, the other foot behind it, the left hand will be forward, the right hand, which answers to the main-sheet, holding the yard behind his back. When it becomes necessary to go about the skater luffs sharply to windward, the sail shakes, the feet are changed, the hands remaining in the same position as before, the sail rapidly fills on the other side, and the skater shoots away on the port tack with his sail to windward of him.[1]

In this manœuvre the strain on the sail is considerable, and 'Glacianaut' gives an alternative method[2] by which the sail is kept to windward by turning the skates to leeward, and running for a moment before the wind, shifting the hands while so doing. Then with a slight turn of his skates to windward, and trimming his canvas accordingly, the navigator shoots away on the new tack. 'Glacianaut' recommends this method to a single navigator, the former if two are using the sail.

This equipment, although very simple and inexpensive, is not as serviceable as the sail which is made and used in Sweden. By the kindness of Mr. W. F. Adams, Hon. Sec. of the London Skating Club, I had the privilege of seeing at the Club Rink in the Regent's Park the dexterity with which manœuvres can be executed with a Swedish sail by an experienced skater. The sail used by Mr. Adams was made by Bastman of the Sportsmagasin, Stockholm. It is of white duck, about 7 feet in height, about 9 feet wide at its base, tapering to about 3 feet at the top. The spars, which are made of light bamboo, were fitted in England under Mr. Adams' supervision. They consist of a strong but light mainyard, and of

[1] The *Field*, Feb. 15, 1879. [2] *Ibid.* March 1, 1879.

two lighter spars, to which the sides of the sail are fastened from top to bottom. The sail is provided with two sets of reef-points on one side, but these are hardly adequate; it would be well to be able to shorten sail on both sides in rough weather. The spars are jointed so that they can readily be put together or taken to pieces; when they are strapped together, and the sail is neatly folded, the dimensions of the apparatus are inconsiderable. Its weight and its appearance are not very different from those of a salmon-rod and a macintosh. Whether he is 'going free' or 'beating to windward,' the navigator must always keep the sail between himself and the wind. When the wind is dead aft the skater carries the yard behind him on a level with his shoulders, holding it in position with both his hands; his body is nearly erect, and his feet parallel with one another, about six or eight inches apart. When he wishes to 'go about' he must remember that he must not act as he would if he were on board a yacht —run the boat's head into the wind, and get way on the new tack—he must rather *wear himself*, at the same time shifting the mainyard from one shoulder to the other, turning his body back to the sail, changing his position so that what was the hind part of the sail on one tack becomes the fore part on the next, and grasping the port spar with the left hand if on the port tack, or the starboard spar with the right hand if on the starboard tack. The employed arm and shoulder will now be thrown forward, the unemployed arm being left free; the body must lean towards the direction from which the wind is blowing, the foot which corresponds with the employed arm, i.e. the foot which is to windward, being in front of the other foot, the prows of both skates pointing in the line of intended motion. At each successive tack the position of the body, shoulder, foot and hand must be shifted; but these manœuvres can be executed in a few seconds by a practised skater without any danger of 'missing stays' or any other mishap. Mr. Adams tells me that he can sail within three points of a steady breeze, and that with a fresh wind from the most favourable

quarter—slightly before the beam—he can attain a speed of thirty miles an hour.

How the forces of nature can minister to the requirements

Sailing on skates—wind right aft.

of man may be illustrated by a notice of the Danish skate-sail, an excellent description of which is given by Mr. T. F. Hanmer in the 'Century Magazine.'[1] The Danish rig re-

[1] Vol. xxiii. p. 726. The *Century* Company, New York. F. Warne & Co., London.

sembles the mainsail and topsail of a square-rigged boat, except that the two sails, which are made of light cotton duck, are in one piece. The mainsail-yard is fastened by straps to

Sailing on skates—close-hauled.

the shoulders of the navigator, and the topmast, which can be raised or lowered with ease, is attached by a gaff to its centre. This supports the topsail-yard, which should be of light spruce or bamboo. The mainsail is 7 feet wide at its base,

6 ft. 2 in. at the yard, 3 ft. 8 in. in height. The topsail tapers to 5 ft. 10 in. at the top, and is 2 feet in height. Sprits, about 6 feet in length, are attached to each of the lower corners of the mainsail, and are held by the navigator. When rolled up, the entire panoply is scarcely more bulky than a large cotton umbrella. With this equipment, a sailor of the Island of Amager, opposite Copenhagen, sustains the part of boat, sail, keel, rudder, ballast, captain and crew; he can lie his course within five points of the wind, and can manœuvre himself in less space and in less time than the most expert ice-yachtsman. A prudent skater would make his first essay with a reefed mainsail and in a moderate breeze. The sensations of a beginner are a consciousness of having lost all hold of the ice, and a wish that his skates were heavy enough to give him more ballast; but a little practice will give him confidence, and show him how he must preserve his balance when 'on a wind,' or 'going about' in a stiff breeze, details of which are given in Mr. Hanmer's interesting article. I will venture to quote Mr. Hanmer's description of an incident which shows how skate-sailing may be instrumental not only in recreation but also in sport. He says:—

One sunny breezy winter day I joined a small party of Danish skate-sailors in a cruise on the Sound between Denmark and Sweden. Three or four miles from the land we espied at a distance something black on the ice, for which we steered, supposing it to be a wounded wild duck or goose. It proved to be a large fox which was out after wounded water-fowl. When he saw us bearing down on him he made for the nearest land, but was soon overhauled and nearly surrounded. When we came too close he would turn his head and snap at our legs. While we were thus flying over the ice discussing between ourselves what a nice skating cap his pelt would make, and dividing in advance the brush, pelt and nose, Reynard suddenly came to a full stop and we all flew past him. He then broke for the land, and nearly reached it before we could tack and come up with him again. We enjoyed the chase too much to despatch him at once; but his foxship soon learned the principles of skate-sailing, and watching his opportunity he

dodged us again, and set his course nearly into the wind's eye where we could not follow him, and nose, pelt and brush soon disappeared in the dry grass of the shore.

Sport of a less exciting character was within the reach of the Fen-skaters. When the ice was black and transparent, and the water was clear, large pike could be observed with as great, perhaps greater, distinctness than in the tank of an aquarium,

Wild-fowl shooting on Whittlesea Mere.

and could be followed as they tried to avoid their unexpected foe. Many an exciting chase ensued. There is a tradition that on one occasion a fish weighing 12 lbs. was pursued until it was tired, that the ice was then broken and the prize secured. When we remember the extent of shoal water in the reed-bound estuaries of the Mere the smile of incredulity with which this anecdote has been received may give place to agnosticism, if not to assent. Whittlesea Mere was also a

favourite resort of the wild-fowl hunter. For this purpose a sledge on bone-runners about 16 feet long, 3 or 4 feet broad, was required. In the front of this sledge a fence of upright reeds was arranged which partially concealed the projecting muzzle of a long duck-gun carrying a heavy charge of shot. Kneeling in the hinder part of the sledge, and punting himself along with two iron-shod sticks, the sportsman was enabled to approach to within a short distance of the islands of sedge, which were to be found near the shores of the Mere, and were frequented by flocks of duck, teal, widgeon, and other wild fowl.

Nor was Whittlesea Mere the only resort of sportsmen in those days. A writer in the 'New Sporting Review'[1] gives an account of an expedition he and some fellow-students at Cambridge University made in 1815. They started at 8 A.M., gun in hand, and with skates slung over their backs. On their way to Ely they killed twenty-three couple of snipe, three brace of teal, and a bittern. They dined at Ely, and skated home by moonlight, reaching Cambridge at 11 P.M. It is, perhaps, not very surprising that the writer adds, 'We all were so stiff next morning that not one of us could walk across a room.'

I have endeavoured to illustrate the relations borne by the art of skating not only to recreation but to the sports of fox-hunting, racing, fishing, and shooting, and if I do not dwell on its instrumentality in pastimes, it is because the really fine games which can be played on ice, curling and bandy, will be elsewhere treated in this volume, and because I think that it is idle to chronicle the abortive efforts that have been made to play at cricket or lawn-tennis on a surface so ill adapted to those games. But mention may be made of military exercises which from time to time have been practised on ice. I have already alluded[2] to the feat of the Dutch musketeers in the sixteenth century; regiments of the Norwegian, Swedish and Dutch armies have frequently been, and are at the present

[1] Vol. xlv. p. 72. [2] Chap. i. p. 9.

time, drilled on ice. Skating parades have at no time formed part of the training of the regular forces in England, but our volunteers have made more than one attempt in this direction. On December 29, 1860, three companies of the Lincolnshire Battalion, after practising manœuvres on ice, skated 'in fours,' rifle in hand, on the Witham, from their head-quarters near Stamp-End Lock, to Boston; and ten years later a similar attempt was brought to a successful issue near Huntingdon.

Dutch Soldiers returning from drill.

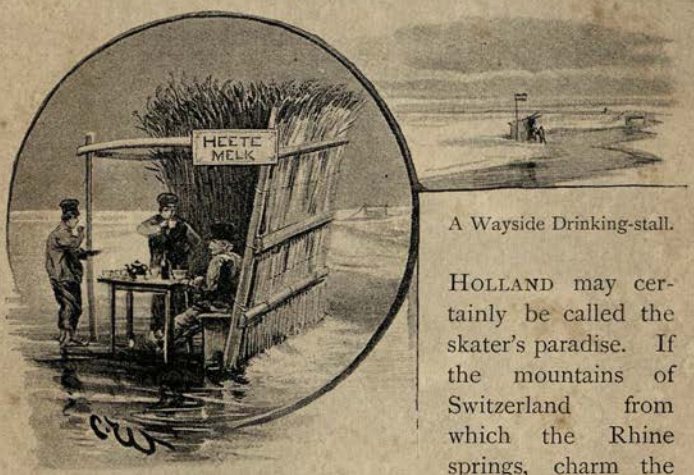
In January 1871, the river Ouse, swollen by recent rains, flooded the adjacent meadows, and ample fields of excellent ice were the result of a subsequent severe frost. At that time I commanded the 1st Hunts R.V., a corps of two companies, and I ordered a parade without rifles or side-arms, but with skates, and more than half of the strength of the corps responded to the summons. The men 'fell in' in single rank, and, except when in 'skirmishing order,' joined hands. 'Formations of line from column,' 'column from line,' 'countermarching,' and light-infantry movements were executed with

admirable precision and rapidity, and it was a subject of regret to me that when I subsequently had the honour to command an Administrative Battalion in the Fen-country, and might have expected a muster of about 300 men, the weather, 'varium et mutabile semper,' prevented me from carrying out my intention of repeating the experiment on a larger scale. Although a travesty of the regulations laid down in the F.E. book, such exercises are not without their use; they are replete with interest to performers and spectators, and they illustrate, what I have already said, that the art of skating is the Fen man's second nature.

CHAPTER V

HOLLAND

By C. G. Tebbutt



A Wayside Drinking-stall.

Holland may certainly be called the skater's paradise. If the mountains of Switzerland from which the Rhine springs, charm the Alpine climber, assuredly the frozen waterways of Holland delight the skater. At the source of the Rhine is a country where it is almost impossible to obtain a level cricket pitch ; at its mouth only a few sand banks and dykes break the line of the horizon.

Holland may be almost termed the estuary of the Maas, Rhine, Ems, and Issel, which, carrying the waters of Germany, Switzerland, Belgium, and France, threaten to inundate and make Holland a swamp, while the relentless billows of the

North Sea washing its eastern coast demand admittance to the home from which they have been evicted by the hardy Dutchmen. Upon its system of drainage and dykes depends the very existence of Holland. It has been described as being anchored in the North Sea. Rivers made by means of banks or dykes, thrown up to give the necessary fall to the sea, carry the water from the uplands at a high level through the country, and form the great highways for drainage and commerce. Every schoolboy knows of the great sea dykes which are able to enforce Canute's command to the ocean, 'Thus far and no farther.' Having thus disposed of other nations' water, and kept the sea at bay, all the rain which falls in Holland is pumped up into canals, some of which drain into these rivers, and some into bigger main canals emptying themselves at low tide into the sea. Rivers, large and small canals, drains and ditches cover like a spider's web the face of the land, all of them under the most complete control of the wonderful Dutch engineers. We say 'England rules the waves.' When crossing to Holland I have often wished she did exert this influence; but once there the inland waters are found to be in complete subjection.

Illustrations of skating in Holland usually centre round a picturesque figure of a woman carrying her basket of butter and eggs to market. The writer has, however, never seen this familiar dame with her dairy produce, but he has seen her busy with knitting needles as she swings gracefully along on skates. He does not, however, propose to give an exhaustive description of Dutch skating, but to describe what he has witnessed during many skating expeditions all over the country, and he hopes that information may be furnished that will be of use to anyone who wishes to explore its frozen waters.

One must not mix up the people who live east of the Zuyder Zee with those of South Holland. The former are an agricultural race called Frieslanders or Fries, who claim us as brothers from similarity of character, habits, and language. They doubtless exported speed-skating into the Fens, for the Fries style of skating is like the Fenman's, being straight and go-ahead. The

thin blades of their skates lie flat on the ice, while their more southern countrymen prefer a thicker and slightly curved iron, and skate at a slower pace, swinging along, rolling from side to side in long curves on the outer edge, following the direction in which their strokes naturally propel them. The Southerner does not care to hold to a straight course; he enjoys the luxury of his 'Dutch roll' too much. The difference in style is soon seen by their swept courses. The straight-going Fries only sweeps for himself narrow paths on the ice, whilst down south broad ways are the order of the day.

It is these swept courses which make Holland such a skater's paradise. Many countries, such as Norway, Canada, &c., have severer winters, but the cold brings snow, and when once there is a heavy fall, it is only possible to skate on rinks or swept courses. No country in the world has such a system of clearing away snow as Holland. It is necessary to keep the highways open for traffic; and, as you skate from town to town, and find everywhere ice clear from snow, be thankful, but do not imagine it is for the benefit of such pleasure-seekers as you and I. Far into the country where villages are miles apart, immediately after a fall of snow the busy sweeper is at work, and during the day the icy track is laid bare. In large towns where traffic is heavy, sweeping is not sufficient; the roughness of the ice is levelled down by big planes, and the cracks filled up by pouring hot water into them at night, so as to allow the loaded sledges to be easily drawn along. In England, after a slight thaw, the river often rises, half melting the snow in some places, in others covering the ice inches deep with water; the frost returns at night only to make skating the more impossible. One is very rarely thus cheated in Holland, for the rivers, being on a dead level, and the sluice gates closed, the water never rises.

Having over-night looked into the papers to see what is going on and examined the map, we decide upon a skating tour. Rising early (never early enough, as we find out by the end of the day) we load our outer pockets with cents, and on

tram or by walking reach the outskirts of the town (if it is a large one); but if in Friesland we may, if we like, tumble almost straight out of bed on to the ice. 'Sache une pour soi' is the order of the day: that is, 'Put on your own skates even if you are a lady,' as is the Dutch custom. True you may find gangways, steps, planks, &c. leading down to the ice, and seats and forms on the ice, but you must put your own skates on. You are expected to give a cent to the plank-man and the sweepers as you pass them. There is no need to stop when giving; after a little practice a cent may be thrown into the sweeper's hat at full speed. One is glad to get clear of the dirty snow and thronged way of the town, and strike out on the clean ice of the country. Here the many tracks which cross and recross the river will have converged into one main course. It is well to keep to this course, unless indeed there is no snow to hide the ice, for by cutting out a fresh track of your own you may break your nose or lose a tooth.

Be sure to provide yourself with a large map of the waterways and look out the route before starting. One can often pronounce a Dutch name to one's own satisfaction, but not to the recognition of a native, and in such cases, by pointing it out on the map, the sweeper, or stall-man, will show you not only the way, but the way where the ice is best, or it may be a short cut unmarked on the map. These stalls are a great feature. Often they are mere shelters of plaited reeds and without roof, though along beaten tracks one finds well-protected wayside inns. In populous districts these booths abound, tempting the lazy to rest and the thirsty and hungry to satisfy their needs. Inside these shelters will be found forms, chairs, two or three Dutch boys, and the landlord. Before him on the table are a lot of cups and saucers. Each cup and saucer is of different make, colour, and age, the remnants of ancient sets. A big copper kettle, containing boiling milk or coffee, or milk alone, rests on the fire behind Mynheer, while the eatables are represented by heavy biscuits and heavier gingerbread cakes. Some 'swell' booths provide schiedam, schnapps, warm wine, bread

and cheese, and ham ; some only the inevitable kettle which is filled with aniseed milk. It is never worth while to carry solid provisions, you can always depend upon getting a meal at one of these stalls, and, if you know Dutch, enjoy the jokes and good humour of the people, who, in their keen interest for everything connected with skating, will carefully examine you, your get-up, and your skates. The writer has had in Friesland two or three hundred people catch up his feet as he has sat upon a bank in the midst of a crowd, and they have discussed and examined his skates and person until he doubted to whom he belonged.

Besides water, another important national slave is the wind. When travelling along these raised waterways, some twenty feet above the surrounding land, in almost every part of Holland the horizon seems studded with windmills. Far and near, like sentinels watching the welfare of the inhabitants, they patiently wait for every breath of wind to use in raising the water from the low-lying lands, or to grind corn or cut wood, &c. They are of all sizes, some like mere toys, and some, like the proverbial Dutchman, large and comfortable looking ; others appear mere skeletons with the working parts all exposed ; others, again, are substantial dwelling-houses, well protected from the weather by reed thatching. All seem to understand their work, and, excepting when the owner forgets, every now and then, to grease the working parts, they never so much as grumble, or strike, should the wind employ them night and day successively. In some parts every field has a windmill, in others a big engine does the work of the neighbourhood. One might almost say, what with the use of the wind for driving windmills, the barges in summer, and the sledges over the frozen waters in winter, that not a breath of wind is wasted in this thrifty country.

High up, so that one skates on a level with the eaves of the houses (unless, indeed, the houses are built, as is often the case, on the banks themselves), one is greatly exposed to the wind. For, so perfect is the system of drainage that, unlike our Fen rivers, there is no need to provide banks high above the water

to prevent a sudden overflow after heavy rain. Along some of our Fen rivers one feels shut in from the outside world, like a train passing through a cutting; but in Holland the three or four foot bank allows the skater a full view of the surrounding country.

In no method of progression is one so much affected by the wind as in skating, or so ready to seek shelter from it under the lee of another skater. It is obviously unfair to take all the advantage of his protection without sharing in the extra labour of facing the wind. Here, again, our economical friends teach us a lesson. One can see batches of skaters swinging along against the wind in single file, a pole under their right arms, skating together stroke for stroke as one man. It will be easily seen that those who take shelter under the leader by means of this pole, help him along. Coming down wind, the whole thing is reversed; it is now a broadside and not a single file, with the pole held abreast of them, and instead of keeping a straight line, the batch rolls from side to side as if to prolong the enjoyment of going with the wind. It is then that a Dutchman looks the happiest man in the world. These skating poles are quite an institution; they have a knob at each end, and are painted with bands of colours running spirally from end to end like a barber's pole. Every lad possesses one, and is proud of it, has his favourite colour, and, of course, his name in large letters painted on it at one end. He would as soon be seen without his pole as a Londoner without his top hat. One of the first things noted when going down to the ice is the number of skating poles carried over the shoulder, from which the skates hang down the back, whilst at large skating rinks, as at Amsterdam, &c., a great heap of poles may be seen which are let out by the hour.

I have often doubted whether it were possible to get drowned in Holland. Certainly no Dutchman should, nor need any foreigner, if he is the least observant. Should any part of the ice between, say, two villages be unsafe, reeds are carefully cut and placed as a barrier to warn the skater.

Notices are put up, and, under bridges, planks and hand-bridges are placed, often with straw to cover the boards for the protection of the skates. At other places, where it is necessary to get off or cross over a bank, the thoughtful Dutchman has strewn the way thick with straw or reeds. Of course the grate-

Dutchmen skating with pole.

ful skater will not begrudge a cent (one-fifth of a penny) to those who provide such accommodations.

Let us now get a glimpse of this thrifty nation out on holiday. After work is over, men and girls come trooping down to the ice to skate round the village course. In England every village has its green or common, in Holland every village has its water common in summer and ice

common in winter. Upon this ice common a course is marked out by stakes and decked with flags, and is used for the village races. One may often in passing through a village see the prizes, which are to be competed for during the evening or the next day, stretched high upon poles across this straight course, and well out of reach, with groups of boys wistfully looking up at the coveted articles, discussing the merits of the skaters, or, suddenly becoming excited by a desire to win, madly rushing up and down the course for practice. An important race is often held on a large lake conveniently situated for the neighbouring villages, and draws thousands of spectators from ten and twenty miles' distance. From all parts they stream in. The squire and his wife wrapped in furs, riding in a sleigh, and drawn by a pair of horses; the sturdy farmer in his brightly painted family 'carriage,' driving his high-stepping black horse, bedecked with bright coloured streamers, and jingling with sleigh bells; the hardy buxom country lass with her gold or silver helmet, and lace headgear, and numberless skirts, hand in hand with her young man in flannel knickerbocker suit and round fur flowerpot-shaped cap; the 'swell' in black velveteen coat and short breeches with long black streamers hanging from the knees, fancifully knitted stockings and bright buckled shoes. There is sure to be a band somewhere, for the Dutch are intensely fond of music, and if the lake be large, some ice yachts may be seen skimming along with the grace and ease of a seagull. The contests consist of sleigh racing, competitions for men, and racing in pairs for men and women. The sleighs generally come first, and one is much struck by the size of the horses and the smallness of the conveyances. Trotting along at tremendous speed for only some two hundred yards, the whole race is over in a few seconds; the spur break is dug into the ice and soon the bell announces a second spurt. After half-an-hour's interval the more popular competitions begin. Big, powerful men, some old reputed champions with no anxiety on their faces, others looking nervous, as it is their first 'fling,' fly over a 160 metre (about 175 yards)

course in pairs and heats. It is a marvellous thing to see heavy men, some over forty years old, speeding down the course like Sheffield sprinters, sometimes skating, it is said, 100 heats in one day. As straight as an arrow they go, kicking their heels up behind as they strike violently backwards, and their arms flung wildly from side to side. At half the distance the race is often won, and the victor, completely master of his rival, eases up and only wins by a yard. At another time it is a neck and neck struggle, and amid the shouts of the crowd they come in almost a dead heat, the indicating machine at the finish alone being able to decide upon the winner. This indicating machine is admirable, and indeed indispensable for such short races. Standing between the two courses, two threads are stretched one on either side of the machine, and fastened on the outside of each course to a stake. The contrivance has two white discs, which, when set ready for the next race, have two moveable black discs to cover them. The strings on either side of the machine hold a catch and prevent the black discs from falling and exposing the white discs. As the moveable discs can only fall inwards, and then only one at a time, and as in falling one prevents the descent of the other, it is almost impossible for a dead heat to be registered, and the first skater who touches the thread, releasing the disc on his side, proves himself the winner.

Towards the evening young men's and girls' races will come on. Having chosen partners, the competitors get ready at the starting point. A rigged-up canvas protection forms a dressing room, where the girls divest themselves of as much clothing as is convenient, and of as many skirts as they can well spare; then, grasping the right hands of their partners, and close behind them stroke for stroke, at the word of command they rush off. Not troubled with too much sentiment, nor requiring too much consideration, these Fries lasses are, on skates, the wonders of the world. Their speed is often equal, and sometimes even superior, to that of the young men with whom they race.

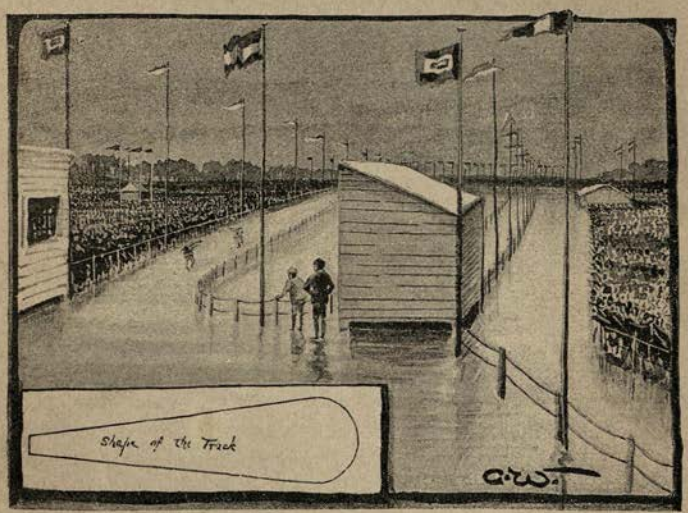
When skating in Holland, be careful how you show off your speed before a lady, or you may have the pleasure of following in her wake instead of being her leader. The tale goes, that the winner of an international race, who, with a girl as partner, won many prizes, was one day bragging of his victories, when someone, to reprove his vanity, declared it was the young lady, not he, who won them. This led to much wrath on his part, especially when the girl herself declared he did not pull her, but she pushed him along. Nothing would satisfy the company but a race between them. Alas for our champion and the dignity of his sex! He was beaten. Often in the short races the winning and starting posts alternate, and it is necessary for the winner to excel both ways of the course, or to win in the best out of three courses. This is to counteract any advantage or disadvantage which the wind, or course, or accident might give; the crowd is also kept from thronging too much at one end. Women's races have been held since the great race at Leeuwarden, on February 1, 1805, which was won by Trijntje Pieters, of the village of Poppingawier, a girl of twenty winters.

It is said that during a good winter like that of 1890–1, some makers sell more than 10,000 pairs of skates. Thousands upon thousands collect at the important races, and discuss the merits of their favourite skaters, and yet, much to their credit, the curse of betting is unknown. All is done from the true love of sport. At the first Great International Race it is calculated that 100,000 people were present, and hundreds of sleighs drawn by horses; and no one who witnessed the excitement when the last foreigner was beaten could doubt the national sentiment. A description of the Great International Race at Heerenveen will illustrate this.

The severity of the weather during last winter rendered it possible to carry out this meeting without hindrance, and for completeness and extensiveness of arrangement, it was probably the grandest series of races ever held.

On December 16, with Smart and See fresh from St. Moritz

(where by generous help I had been able to send them to train), we trudged through the small town of Heerenveen, and after skating about a mile, saw in the distance the scene of the morrow's contest. A little to our right the horizon was studded with large national flags. As we neared, shorter and smaller flags came in view, and upon turning suddenly to the right, the whole lake widened out before us, bedecked with coloured bunting. It was a bright, glistening expanse of ice, swept and



Dutch raceground.

scraped, reflecting the waving banners which almost made the ice warm with their colours. Beyond, the sky, intensely blue, met the pure white snow-covered pastures or tufted reed beds at the horizon. It was a most charming and fairy-like scene never to be forgotten.

The courses were in the middle of the lake. A big outer circle of wire fencing enclosed an inner circle, so as to form the outside racing course, and within this again were other tracks.

This outside course was divided into two tracks, and had two parallel sides running north and south, about 100 yards apart, joined by curves at each end, altogether rather more than a mile round.

The starting place for the mile and two-mile races was at the western side, at the northern end of the course. At the eastern side of the southern end, after completing the curve, the mile course left the outside and came diagonally back again to the starting place, forming the well-known horseshoe mile course. Half way up the western side was another starting place, and another return horseshoe track for the boys' race, $\frac{3}{8}$ of a mile in length. Inside, and parallel to the eastern side, was a straight $\frac{1}{4}$-mile track, divided by cubes of ice into three courses; for the starters' and judges' boxes were so built that the officials and timekeepers watched the races high up above the crowd.

At the starting end were a dressing room and refreshment pavilion for the skaters and officials, a committee tent, and a grand music stand. By payment the spectators were allowed inside the outer roping; beyond this the lake was free to all. Outside the ice were more stands and pavilions, viz. two large refreshment places, outhouses, tobacconist-shop, another band stand, tool-house, &c., and house for the sweepers, and so forth. The whole was laid out on a magnificent scale, and could not have cost less than 1,000*l.*, all for the sake of two days' racing.

In good time on the morning of the race all were astir. At about nine a parade took place. A military band of music, preceded by the banners of the Thialf Club, headed a procession of some hundred sweepers carrying skating poles; then came the officials of the Thialf Skating Club, decorated with their club colours, another band bringing up the rear. After parading the town, the sweepers skated to the course. Here streams of skaters were arriving from all parts of Friesland and Holland. It was estimated that there were 50,000 or more spectators. The refreshment contractors, who had provided ham sandwiches, coffee, schnapps, &c., for 20,000, were completely 'eaten out.' No one who has not seen the Fries on a

great skating race-day can imagine how intense is their interest in this pre-eminently national sport. On everyone's face is a happy, determined-to-be-pleased expression, for not a man, woman, or child, but is a born skater. The name of Mr. Donoghue was in everyone's mouth after the first day's racing. After dining, a public assembly was held in the Posthuis ; here every imaginable toast was drunk, in every sort of wine and spirits, and in French, Dutch, German, and English languages, accompanied by musical honours and national anthems.

Next day, just before the greatest race of the meeting—for the Professional Championship—a sudden and blinding fall of snow came down. A troop of sweepers were soon busy, but, coming first on the programme, George See and Vrouwes had to plough through the snow, which necessarily affected their times, but very soon the sweepers had the courses quite clear again.

Curiously enough, the four best times came out in pairs. James Smart and Marten Kingma both with 3 min. $14\frac{4}{5}$ sec., and G. See and Von de Schaaf 3 min. 19 sec. Who would win? Smart or Kingma? The dense mass of spectators became denser and more excited. Kingma competed against See in the final, with the result that both did better time than previously, Kingma 3 min. $8\frac{4}{5}$ sec., See 3 min. $11\frac{2}{5}$ sec. It was a splendid race. Kingma skated grandly, and was the first Dutchman to beat See. The officials were in danger of losing their characteristic gravity, and thought their champion must win. As the times were hoisted on the scoring board in view of all, from mouth to mouth everyone passed the word until the whole multitude seemed to shout Kingma will win ! Kingma must win ! Kingma has won ! I shall never forget the last race. I did my very best to encourage Smart, though I knew the odds seemed against him, and trembled as I saw his pale yet determined face as he started off. He soon left Von Schaaf far behind, and both disappeared in the haze. It seemed ages before they came into sight again ; not a sound was to be heard, all, as still as death, were straining their eyes to get the

first glimpse of the returning skaters. Fortunately our stop watches remained cool, and as I saw Smart loom in the distance, skating with vigour, I hoped he might, thought he would, and yes ! knew he *must* win ; and he did ! My stop watch showed 3 min. 7 sec. The Union Jack was hoisted in his honour. Thousands crowded round, congratulated Smart and claimed him as their champion, and much to the credit of those who had hoped for his rival's success, not a word of disappointment was uttered. A crowd instinct with such genuine sporting feeling is seldom found, and would be an honour to any country.

The champion short-distance skaters of the present day are, Renke van der Zee, Peter Kingma, Weibe de Vries, Marten Castelein, W. Zijlstra, T. B. Veninga, Okke van den Berg, of whom Renke van der Zee was chosen to represent Holland against the Norwegian in 1885. But to Englishmen the best known skaters are Arie van den Berg and the Kingma brothers. Arie van den Berg was born at Benthuizen in 1852, in mid-winter. He was nineteen years old when for the first time he won the first prize in a race at Zoetermeer, January 13, 1871. Broadening and thickening, he became one of the most powerfully built men in Holland, weighing some 96 kilogrammes, and standing 5 feet 9½ inches high. Yet with all his strength he had that 'go' and activity which is so indispensable in the short Dutch races. He has placed the following first prizes to his credit : two at Zevenhuizen, one at Nieuwerkerk, one at Gouda, one at Kralingen, one at Oudshoorn, one at Nieuwerburg, three at Paanacker, one at Leiden, two at Sloterdijk, one at Weesperkarspel, one at Haarlem &c., &c. He was the champion of South Holland ; for it is probable that in Friesland there were one or two skaters who could always defeat him over the 160-metre courses.

It was in the International races, where the courses were a mile and over, that our hero showed to such advantage, and found no equal in Holland.

Van den Berg was thirty-four years of age when he won the first prize at Hamburg in 1886, and again the following year

he defeated the famous Norwegian, Harald Hagen, on January 18, covering a mile in 3 min. 16⅕ sec. Returning a month later, he and B. Kingma met Smart and See at Slikkerveer, where they suffered defeat in the long distances, but won as they liked in the 320-metre race. It was only when thirty-six years of age that Van den Berg allowed the young man Benedictus Kingma to overhaul him in these long-distance contests. No one knows how many prizes he has won altogether.

The next best known skaters are the Kingmas of Grouw; the United States has its three Donoghue brothers, England its three Smarts, and Holland its three Kingmas. Benedictus, Merk, and Marten are all first-class skaters, and fine active men, worthy of the esteem in which they are held. Benedictus, who was born on Christmas eve, 1859, is the best known. Although in a youth's race he won a first prize, little notice was taken of him until at Leeuwarden in 1885, when he met and beat George Smart. Since then he has represented Holland in its International races. Merk is a very fine skater and has on occasions beaten his brother.

But it is Marten who is now the pride of Holland. Two years ago he was sent by the Dutch N.S.A. with Mr. K. Pander to St. Moritz to train, but had no opportunity of proving what benefit it did him. Again last year (1890) he went to train with Mr. Houtman, to Norway, and though his practice was cut short by early frost and racing in December, his merits as a distance skater were seen to advantage at Heerenveen, for in the mile race no other Dutch skater could come within 11 secs. of his time. He defeated George See and only suffered defeat from James Smart. No one in Holland but Mr. Pander can keep pace with him for any distance over half a mile, though in a 160-metre course a good many are his superiors. Racing in long Norwegian skates, he has specially practised long-distance skating, and unfitted himself for the short races. The six best milers in Holland may perhaps be placed in this order of merit:—first Marten Kingma, second Weibe de Vries, R. Westra, Benedictus, and Merk Kingma, and third Arie van den

Berg—whilst Klass Hanje of Dokkum, and B. Dekker of Zwolle, are the best 160-metre sprinters.

Of the amateurs Mr. K. Pander of Haarlem is pre-eminent. He stands in the front rank of the amateurs of the world. His best performance was in 1889–90 after returning from a month's training at St. Moritz, when he won the ½ mile and 1 mile in the International races. Well-built and very active, he excels in many other sports, though he is best known to us as a skater.

As one would expect, it is usual in Holland to make skating expeditions and visit friends who live in far off towns and villages, and there are some enthusiasts who are ambitious of performing long-distance feats. One of these feats is to visit in one day the eleven towns of Friesland, a distance which must be close upon 80 miles. Mr. W. J. H. Mulier of Haarlem accomplished this last winter in 13 hours, of which 1 hr. 55 min. was taken up in resting and consuming, &c., and he has kindly given me the following particulars.

It is necessary to have good ice, practically clear of snow, a full moon, bright sky, and plenty of previous practice. The best record is twelve hours. From Leeuwarden to Dokkum I found the ice exceedingly bad. I had ordered at Bolsward a guide to show me across the lakes, &c., but he could not go with me, and I had to lose forty minutes in looking for another man.

He took the following course :—

Starting at Leeuwarden, skated to Dokkum, returned again to Leeuwarden, thence to Harlingen on the Zuider Zee viâ Franeker, turning down south viâ Bolsward, Workum, Hindeloopen, to Stavoren on the Zee, facing to the left to Sloten viâ Balk, round the Sloten Lake, and again over the lake to Ijlst, thence by Sneek to Leeuwarden and home again.

The route and even the towns visited are, I understand, sometimes varied. No Englishman as yet has been credited with the accomplishment of this feat. Who will be the first?

Another great feat is to skate from Hague to Leeuwarden—great, because it is necessary to cross the Zuider Zee, and this

is only possible after an exceptionally severe frost. Last winter six men walked across from Enkhuisen to Stavoren in 8 hours. The ice was quite safe, but too rough for skating. It is on record that one Reindert Reinders of Jaure delivered in one day, during the winter of 1763-4, a letter from Stadtlander William IV. to his mother at Hague, returning again to Leeuwarden across the Zee from Enkhuisen to Stavoren, considered to be a forty hours' walk. W. Koopmans of Bolsward made a similar journey with important state papers, starting from Leeuwarden at 6 A.M., and returning home again at 9 P.M. During a severe frost it is possible to skate south from Rotterdam to Bremen.

Trips may be made all over Holland, but the best centres are up in Friesland. From the two capitals, Leeuwarden and Groningen, any number of expeditions can be taken. The people being the most enthusiastic skaters in the world, every provision is made for skating. Here children can skate before they can read or almost walk. All business is done on skates, and on Sunday thousands travel thus to service, leaving their skates in a large heap in the lobby of the church. It is literally true that the Fries tie on their skates by their fireside, step on the ice, and without even untying them, kick them off again through the open door upon reaching home again.

A most interesting week might be spent in coasting along the eastern shores of the Zuider Zee, and visiting those romantic dead cities, Harlingen, Hindeloopen, Stavoren, Kampen, and Harderwijk. Each of these places is full of historic memories, curious habits, picturesque costumes, and artistic buildings. Every detail of life will charm the visitor. Another enjoyable tour can be taken from Amsterdam, without the necessity of an extra day's travelling so far north as Friesland, and as these trips are so accessible, the writer thinks a short account of the expeditions he has made will show what may be expected.

I left London one evening at 8 P.M., and arrived at Leiden next morning at about 11 A.M., when I was soon on the ice and

Zuider Zee.

striking out for Amsterdam. There are two ways of reaching that city, one viâ Haarlem, the usual way, and the way which I took, to the south-east of the once famous Haarlem Meer.

It was my first skate of the season, the ice was splendid, my skates sharp, and the air keen. Reaching de Kaag, I found, just beyond, a native on Fen skates, and congratulated him upon his choice. His only answer was, 'They go precious hard!' And no wonder,

for he was wearing list shoes, and had his whole weight rested upon the sharp pointed heel screw. Dutch skates have no heel spikes. At Alsmeer I sat down inside a booth, had some coffee and gingerbread, and entertained a crowd of youngsters. Continuing I met a lot of sledges pushed along by men wearing ice-spikes. The sledges were loaded with billet wood, straw, hay, reeds, grocery, baskets, &c. Soon after this I overtook a party of sportsmen or poachers, carrying guns, and weighed down with hares, pheasants, and other game. Nearing Amsterdam I was greatly amused to see a man with a wooden leg, perched high upon a stool, shod with ice runners; he was shoving himself along at a merry pace, whistling a jig. Amsterdam was reached in about 2½ hours, a short first day's skate of over twenty miles.

The other route viâ Haarlem I have often skated. Once the excursion was in the company of the late Baron de Salis, Mr. Neville Goodman, and Mr. J. van B. Wickers, all so well known for promoting international skating, my sister and an artist friend also accompanying us. As we started from Amsterdam a strong wind was blowing behind us, and we sped along at a lively pace to Halfweg (Halfway), some six miles, in 23 minutes. After this the ice improved, and we fairly flew without a check to Haarlem, racing everyone; the young lady and her brother arrived first, having covered the 4½ miles in 14 minutes, or at the rate of 3 min. 7 sec. for a mile. Of course the wind claims much of the credit. Passing through the picturesque watergate and round the town of Haarlem, we found the skating beyond as bad as it had been good before. Dredgers had lately thrown up fine sand on to the banks, and the wind, now destined to hinder us, had blown it across the ice at a time when the surface was melting from the warmth of the sun. Anyone may imagine the effect! This lasted for miles; our skates refusing to go over or through it, we floundered about in a distressing way. But the lunch at Leiden revived our spirits, and we returned home by train with pleasant thoughts of our thirty miles' trip.

Several expeditions during a fair frost may be made along the fine Amstel river from which Amsterdam derives its name.

By taking the train to the outskirts, the dirty city ice is avoided. The heavy and incessant traffic of skaters and sledges cuts up and spoils the tracks for miles around a large town during a long frost. Once beyond the influence of the city traffic, we swung along and were not long in reaching Ouderkerk. Here is a Jewish synagogue which, I believe, is only accessible by water, in summer by boat and on ice in winter. Continuing along the Amstel it is not a 'far cry' to Withoorn; then, if the skater is ambitious, by following the Aar and Gouwe across the old Rhine or Rijn, Gouda is reached, and so on by the Ijssel to Rotterdam, some sixty miles' skate from Amsterdam.

We once essayed this expedition on March 2, and to cut off retreat sent our luggage on to Rotterdam. After arriving at Withoorn we accepted the lead of a Dutchman and his boy who were taking a barrel of schiedam on a 'ijsteede' or sledge. He soon left the Amstel, and then gave us a cross-country gallop along ditches and drains, through farmyards, &c., for hours. We shouted incessantly to him 'Naa Rotterdam,' and as often received a nod and a smile in return. At last, just as we were in desperation and concluded we were hopelessly lost, we emerged at the junction of Aar and Rijn. Our pilot triumphantly pointed with his hand and exclaimed 'Naa Alphen, naa Spoorweg.' It was raining and we were wet through, so we took the hint and were soon in a railway carriage. On another occasion we left the Amstel at Ouderkerk, and bearing to the left along the Bullewijk, came across a fine lake near Abcoude. Here races were being held. After watching an exciting ice-yacht sail and some sleigh races, we could endure the bitterly cold wind no longer, and were glad to return home. But there were hundreds of Dutch lasses, apparently lightly dressed, with only a lace cap to cover their heads and with their powerful arms quite bare, standing about as if it were a warm summer day. Hundreds of thousands of fish lay dead beneath the

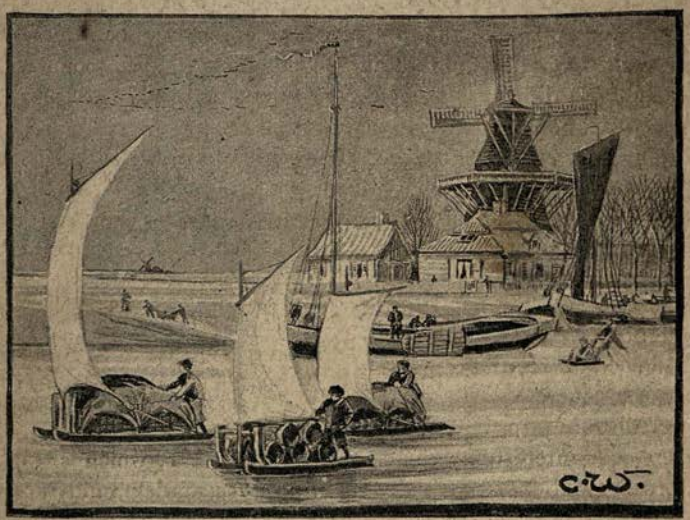
eighteen inches of clear ice. It is said not a single fish in this lake survived the cold and want of air. There must have been one dead fish for every superficial foot of ice along the rivers, and I noticed wherever there was a wake-hole or unfrozen place the water was black with fish crowding up to suck in the air.

Another but longer way from Amsterdam to Rotterdam is by Utrecht. Leaving a series of lakes to the left, and getting on to a large canal which is in course of construction, we found the district as we neared Utrecht more wooded, and passed some very picturesque residences and country villas. From Utrecht we faced due west, and reached a more open country. It was with difficulty we could get through a crowd collected at Woerden to watch some racing, for the people seemed intent on finding out who the foreigners were, and did not realise the fact that we had to catch a train and a steamer. Leaving the Rijn, we skated some eight or nine miles southward and arrived at Gouda, so famed for its cheeses. By keeping to the Ijssel for another thirteen or fourteen miles, Rotterdam is reached. The total distance must be over seventy miles. It is considered the proper thing to skate from Rotterdam to Gouda, buy there a long clay pipe, and return with it in your mouth to show where you have been.

All these trips are to the south of Amsterdam, but certainly the most interesting are to the north. The Y, which is that portion of the Zee which comes up to Amsterdam, and with the North Sea canal cuts off the north-western part of Holland from the mainland, is seldom frozen; it is, therefore, necessary to cross it by rail or ferry-boat. Arriving by train at Zaandam, we skated one windy day through this historic place for miles. Here are windmills without end. At one bend of the Zaan River there seem in every direction to be whirling sails, overlapping, two and three deep, surrounding us, each sail trying to outwhirl its neighbour, until the sight made one's head swim. It is here that the right of not ancient lights, but ancient winds, is so valuable. These mills are most picturesque, thatched with reeds half way down their fat sides, and the lower part painted

bright green picked out by red paint; they look most comfortable.

On the river the men were busy loading the ice-bound wherries and ships from sledges; and we met strings of these sledges laden with flour, corn, straw, wood, stone, and hay, sliding along with sails set before the wind. Once out of Zaandam we found the population very sparse until reaching Alkmaar. This is a city of canals; they seem to cut it up piece-



Sleigh-sailing.

meal, and by means of them any house may be reached, if you take care to duck down often enough to avoid the innumerable bridges. The great feature of Alkmaar is its fine sixteenth-century town hall, hung around with bells which chime the quarter hours, and upon which the coming hour is struck, as is usual in Holland, at the half, as well as at the hour itself. Beyond Alkmaar the North Holland canal leads to the Helder through an almost deserted country. In returning, a *détour* to

the east may be made viâ Parmereid. The last and best of expeditions is along the eastern coast of the Zuider Zee. It is worth a week's travelling to enjoy the sights along this route.

In the winter of 1890 the Y was not only frozen up, but at last it became possible to walk across from Enkhuizen to Stavoren, some thirty miles.

Crossing the Y by ferry, not far from the great sluices of Schellingwoude, which protect Amsterdam from the fury of the Zuider Zee in a stormy passion, I put my skates on at Nieuwen, to avoid the rough ice, and started along small drains, following and being followed by hundreds of skaters. It was a short cut to Monnikendam and across the flattest of this flat country. Skaters appeared in all directions, and the whole country seemed alive with them as they travelled towards all points of the compass. I thought I was a stranger in a foreign land, but everywhere I was accosted by name, and one Dutchman went miles out of his way to show me the shortest cut to Monnikendam.

The town is very picturesque, and the fine church has had a wing altered so as to be used as a post office. A walk through its gable-ended houses brought me to the Zee. Curving round some reed beds, the frozen sea expanded out as far as the eye could reach. A score or more of ice boats were skimming over its rough surface with the ease of a seagull in flight, others were waiting to be hired. I longed for a sail, but had no time. In the distance appeared the island of Marken like a small pine forest, the houses hidden behind the rows of masts of frozen-up fishing-boats (called Tjalks). Around the island—really a group of small islands—a fence of piles driven close together prevents the sea from washing Marken away in a storm. The houses are crowded on to the islands, the outer ones hanging on, partly resting on solid ground and partly on piles driven in the waters beneath. Owing to their isolated position these islanders have been able to maintain their ancient costumes and customs. The Markenaars are a fine race, and so select as to never marry outside the island. Old

and young men, boys and young girls, are dressed alike, in enormously baggy knickerbockers, and it is comical to see son and daughter, father and grandfather, standing side by side, all with hands in pockets and in the same costume. For buttons large silver (often ancient) coins are used. A light woollen jersey, tucked inside the knickerbockers, and a round fur cap complete the outfit. For colour and interest the women eclipse the men. The lace scuttle-shaped cap covers their auburn hair, from which two long curls hang to the waist, and a fringe covers the forehead; the woollen bodice, of bright green or red, is worked in a fancy pattern, and the shirt is of many colours, whilst even the wooden shoes are painted red or green. Very picturesque and startling they look contrasted with the snow, and when skating vigorously behind their hardly more masculine mates.

Coasting inland along the Zee I reached Edam, and found some races in progress, and I learnt for the first time that I was to compete, as also that Smart and See were expected every minute. They were much disappointed, as I soon left, and continued my journey to Hoorn, passing plenty of stalls and refreshment booths. Hoorn is well worth a visit, as indeed are all these interesting old-world cities, reminding one at every turn of the wealth and power of their inhabitants in olden days.

It was late in the afternoon before I reached Enkhuizen, and the moon was up and shining. Mistaking my way, I found reed beds taking the place of grass fields, and a sea of ice for the dry land. It was the frozen Zee again. The 'spoorweg' railway runs from Enkhuizen viâ Hoorn, and tired by a fifty miles' skate I returned by train. Another route may be taken from Hoorn by turning to the west and skating to Alkmaar, and back towards Zaandam as far as Uitgeest, where the train is available for Amsterdam.

Skating carnivals are constantly got up at night in large towns, and skaters dressed up in fancy costumes, often to resemble animals, flit about among Chinese lanterns, and to the

strains of a band. It is then that the people frequent the ice in greatest number. But during the daytime the boys and girls of Holland make the ice their happy playground. Trooping out after school, clattering down the streets, they soon throw off their wooden shoes and put on their skates, most of them wearing pattens twice too long for them, which probably do double duty, for parent at night, and child in the daytime.

With ceaseless energy they romp and play games. If a child has not skates, then it is certain to have a little sledge or

'Ijsleete.'

'steek sleedje,' which gives endless amusement. With iron-spiked sticks they shove themselves along merrily; or using the affair as a toboggan, one after another with lightning speed they glide down the snow-clad or frozen sides of the banks; or perhaps employed as a cart, with a big dog harnessed to it, they drive about like lords. But even should they have neither skates nor sledges they must enjoy themselves; their arms, shins, and backs take the place of runners. In all positions, rolling, tumbling, sliding feet and head fore-

most, it matters not! they fearlessly tear down the slippery banks, and clinging together, three or four at a time, arrive at the bottom *en masse*, a heap of laughing, happy youngsters.

A game which is sometimes indulged in might be well introduced into England. Each player is armed with a hand sledge, or 'ijsleete,' which has no sides or front to it. A number of large wooden balls are placed in two or more rows, some ten yards apart. The object of the game is to pick up these balls, place them on the sledge one after the other, and without allowing any of them to roll off, return them to the starting point as quickly as possible. The one who completes his row of balls first wins. The excitement is intense, for it seems as if the balls have a wicked tendency to roll off, to give amusement to the spectators. Another way in which this game is played is without sledges, the competitors having to pick up each ball in succession and return home with it. The girls as well as the boys are very ambitious to test their speed, especially should they come across a foreigner. These pacemakers are found in every village in Friesland, and all day long one can be racing with the young Fries, whose supreme hope is one day to be champion skaters.

I would advise the intending tourist to get a good map of the canals and rivers. That used by the writer is by Smulders & Co., Hague, scale about five or six miles to the inch; but a better one may be had.

CHAPTER VI

EARLY RACING, AND SOME RECORDS OF THE NATIONAL SKATING ASSOCIATION

BY J. M. HEATHCOTE

Vixere fortes ante Agamemnona

THIS well-known line, which has been a theme for discussion in past ages, and will be a subject for argument as long as men interest themselves in athletic exercises, suggests a question to which it is not easy to reply. For I need not demonstrate that in all our games, and in many of our sports, the marked superiority of modern implements enables men to achieve feats undreamed of in former times, while the *éclat* attached to record-breaking promotes efforts on the part of aspirants to fame far in excess of the aims of our forefathers.

Ice, however, at the present time is much the same ice as that on which our ancestors disported themselves, and the improvement in blades is insufficient to revolutionise the art of skating, or even to affect it materially; so if the question whether there were giants in the days before 'Turkey' Smart —whom I will call the Agamemnon of racing—remains unanswered, it is because stop-watches, official timekeepers, and accurately measured courses were unknown in those times, and the records, or rather traditions, of phenomenal speed said to have been attained by the champions of former generations are wholly untrustworthy. But, although we may disregard many apocryphal legends which are still current in the Fen-country, it may fairly be assumed that when a match was

made for a considerable stake to skate over a course of a given length in a given number of hours or minutes, the backers of time would have taken all possible precautions to ensure the accurate measurement of the distance, and would have insisted that the time was noted with as great accuracy as was possible with the watches then in use.

It is recorded[1] that Mr. Woodward, a gentleman well known at Newmarket, made a wager of 100 guineas with Mr. Joseph Bland that he would nominate a skater who would run a mile in less than three minutes. Considerable sums were staked at Tattersall's and in other places, five to four being laid on time. On the morning of the match, however, odds were laid on the skater, the renowned John Gittam of Nordelph. The event was decided on January 4, 1821, at Prickwillow, four miles from Ely, when Gittam, who was allowed a flying start, accomplished his task with seven seconds to spare. In another journal[2] we are told that a clergyman undertook to skate thirty miles in three hours on Aqualate Mere, in Staffordshire, and that he had no difficulty in performing the feat. No mention is made of the quality of the ice or of the atmospheric conditions under which these races were run, but the inference may be drawn that the speed attained by our ancestors was certainly not greater, although probably not much less, than that of modern athletes.

That trials of speed were frequently made in Holland is abundantly proved by representations of racing in the galleries of Dutch art. Blaine[3] records a race between two young Dutch women in 1808 at Groningen in Friesland, and we have reason to suppose that racing on skates has been continuously practised in Holland and in this country for at least a hundred years. I am indebted to the editor of the 'Stamford Mercury,' one of the oldest journals in England, for much valuable information, but I have been unable to discover in the archives of the last century any mention of racing on skates; indeed, it

[1] *Stamford Mercury*, Jan. 5, 1821. [2] The *Sporting Magazine*, Jan. 1823.
[3] *Encyclopædia of Rural Sports.*

was not until 1814 that this sport was sufficiently popular to ensure its recognition in ephemeral literature. We are told that in that year Youngs of Mepal beat Thompson of Wimblingdon; Fenmen both; and it may be noticed that from those days to the present time no competitor has been found in any other part of England who could hold his own with the athletes of Lincolnshire, Norfolk, Cambridgeshire and Huntingdonshire. In the 'Sporting Magazine,' 1818, we read that Staples of Crowland (probably J. or C. Staplee, mentioned below) beat J. Gittam of Nordelph on Crowland Wash, on January 1, and that on the same day a hat was competed for at Ashton in Lancashire and won by a man named Marsh.

The severe winters of 1820 and subsequent years gave a fresh impetus to racing on ice, and the interest taken by the public in this sport is shown by the annals of that era, which record the achievements of many first-class skaters.

Pre-eminent among these were John Gittam of Nordelph; J. Young of Nordelph; John, William, and Matthew Drake, natives of Chatteris; Perkins, Cave, of Sutton; John and James Egar of Thorney; James May, and J. and C. Staplee of Crowland. Tradition points to Gittam and Young as the champions on a two-mile course, to Perkins as the fastest skater for any distance not exceeding one mile in length; but the recorded success now of one now of another of these well-known racers bears witness to the excellence of all. We are told[1] that

> On January 28, 1820, 4,000 persons assembled at Croyland to see the four first running-skaters in England contend for a free prize of 5 guineas in a 2-mile heat. The competitors were Mr. John Staplee, of Croyland Bank, Mr. Charles Staplee, his brother, and Messrs. Gittam and Young, of Nordelph, Norfolk. In the first heat C. Staplee, 18 years of age, was paired with Young, whose recent victory at Wisbech made him a strong favourite; so much so that 20 to 1 was laid on him at starting, but to the surprise of all Staplee overtook him 50 yards from the goal, and was the first to reach the post. He was, however, beaten by Gittam, who had defeated John Staplee in the first heat.

[1] *Stamford Mercury*, Feb. 1820.

On January 5 in the following year, 1821, James May succeeded in beating John Drake in the final heat of a race run at Upwell, and secured as a prize a silver cup now in the possession of Mr. C. G. Tebbutt. On this trophy is inscribed 'JAMES MAY. A prize won by skating at Upwell, January 5, 1821,' and on the reverse face is a portrait of May, and 'Gently, Drake, I have cut one wing, and will soon cut the other,' perhaps a forecast of the probable defeat by May of Drake's brother. Drake nevertheless is mentioned as the winner of an open race run in December 1822,[1] and in the same month a fat hog was skated for at Mepal by eight men, and won by Cave of Sutton. He also was successful in a mile race with Gittam, and in a subsequent race for the same distance with May.[2]

James May, however, turned the tables on his rival in the following year, for on January 13, 1823, he was the winner of an open race held at March for a prize of ten guineas, beating Cave in the first, Young in the second, and Bradford of Farcet in the final heat.

The fame of Young of Nordelph appears to have reached its zenith in this year; for on January 14 he defeated Cave, Gittam, and May in the preliminary heats, Bradford of Farcet in the final heat, and won a prize of 10*l.* in a race run at Carter's Bridge, Chatteris,[3] and on the 24th of the same month he won another prize of 10*l.* in a race at Wisbech open to all comers; a very fine performance, for he had to encounter J. Egar in the first, May in the second, and J. Young in the third heat, in weather unfavourable to sustained exertion, the wind blowing with great force. Fortunately for Young he had to meet a less formidable opponent in the final heat, Trower of Upwell, whom he defeated with ease. Young again asserted his claim to the premiership of speed-skating in 1826, when he

[1] *Annals of Sporting*, vol. iii. p. 106.

[2] *Notes and Reminiscences of Fen Skaters.* By S. Egar. Official Handbook of the N.S.A. Cambridge, 1881.

[3] *N.S.A. Handbook*, p. 48.

won an important race at Chatteris; and although he suffered defeat in 1830, having then entered on his thirty-third year, by Charles of Stretham, he was a prominent skater in 1838.

The annals of 1823 also record the first notice we have of amateur racing. On January 21 in that year a match was arranged between six gentlemen of March and six of Chatteris. The race was run on the forty-foot river, the course being two miles with three turns, and was won by Mr. Drake of Chatteris, Mr. Green of March taking the second honour.[1] In the same month a silver bowl of the value of 25*l.* was competed for on the Maze Lake, Hertfordshire.[2] The distance was five miles, on a circular course half a mile in circumference. Messrs. Harewood, Blenkinsop, Hayward, Rogers and Smithson competed. The prize was secured by Blenkinsop, after an exciting finish with Harewood.

In 1841, W. Needham of March offered to skate against any man in the world. In that year he was beaten by Few, of Sutton; but he was a frequent winner at race meetings held between 1841 and 1850. This renowned skater recently died at the advanced age of eighty-one. At this period we read of the successes of Cross of Ely, Clarke of Yaxley, and Jonathan Sharman of Holme; but no skater of that time was pre-eminent above his rivals until Larmen Register of Southery, a tall good-looking athlete, whose erect carriage when racing offered a striking contrast to the stooping action adopted by the majority of Fenmen, asserted his claim to the championship of skating, defeating Tom Porter in a two-mile race at Welney. To this race some interest is attached, as it is believed to be the first occasion of an accurate record of time being kept. That of the winner was said to have been 6 min. 35 sec.

The year 1854 is memorable in the annals of skating, for in the winter of that year William Smart of Welney—generally known as 'Turkey' Smart—the first and not the least illustrious of an illustrious dynasty—defeated Larmen Register, and secured as a memento of his success a silver watch, of which he

[1] *N.S.A. Handbook*, p. 49. [2] *Sporting Magazine*, Jan. 1823.

is justly proud. His style could not be selected as a model of graceful skating, his physique was remarkable for strength rather than agility, but the vigour of his stroke, his endurance, his courage and resolution made his protracted career of success deservedly popular among all classes. He did not devote himself to racing until he was twenty-six years of age, or his record might have been even more phenomenal than it was; but, though frequently challenged by, and occasionally defeated by W. See—better known by his sobriquet 'Gutta Percha'—he maintained his superiority over all skaters for more than a decade. As an instance of his energy and determination I will quote the description of an incident which occurred at Welney in 1881, related by 'Black Prince' in the Official Handbook of the National Skating Association for that year:—

Some unforeseen contingency had made necessary an alteration in the venue of a race which was to be held on the following day: evening was closing in, the surface of the ice was covered with snow, blank despair was on every face: at this awful juncture the veteran genius of the renowned 'Turkey' came to our aid. He approached and whispered confidentially in my ear, 'Sir,' says he, 'it's a freezing terrific, and there will be splendid ice to-morrow, give me ten to help me—and four gallons of beer—and we'll just walk some three miles down the wash, and have a lovely course for you by to-morrow morning. And they did it: true, it froze cruelly, some 25°, but all night they swept away. 'Turkey,' who is worth ten ordinary sweepers, acted as 'gaffer,' and by the next morning an excellent course had been prepared. Only one 'contretemps' occurred. After a hard spell of sweeping the men assembled to refresh at the four gallons. Alas! what a terrible moaning; the beer was frozen hard! But your fenman is not put down by trifles; while ten swept the odd man embraced the bottle and thawed it with the heat of his body. Thus they took it in turns, and kept the tap open till all was done—beer and sweeping—by about 4 A.M.

The result was a splendid course, over which a fine race was run at the appointed time; and the gratification felt by old 'Turkey,' when his nephew 'Fish' secured the first prize,

must have been enhanced by the recollection of the active part he had played in the nocturnal drama.

On February 14, 1855, an important race was run at Welney for a prize of 10*l.*, in which Smart, Green, See, Wiles, Register, Watkinson, and other well-known skaters competed. The winner of the final heat was 'Turkey' Smart, Watkinson taking the second prize.

In 1861 'Gutta Percha' See beat 'Turkey' Smart on January 4 at Wisbech, but was defeated by him on the 15th of the same month at Huntingdon.

The severe frost in January 1867 afforded ample opportunities for racing, but by this time 'Turkey' Smart, now forty-one years of age, had found that he could no longer compete with younger rivals, and he was outpaced by Tom Porter of Southery, 'Gutta Percha' See, and Tom Cross of Ely.

In 1868, Stephen Smith, a tall athletic young man, the son of a farmer at Conington, proved himself to be the fastest skater of the day on strong hard ice; but his slow, though powerful stroke, and his weight were prejudicial to his chance of victory on a soft or rough course, and although he was credited with the championship from 1868 to 1872, his career was not one of unchequered success.

A succession of mild winters interfered with racing during the next five years, and deprived Cross of Ely, and the Sheltons of Ramsey, of the chance of showing what they might have been able to do had the weather been favourable to skating. In the winter of 1874–75, the racing season, although of short duration, enabled T. Watkinson of Upwell to place to his credit victories at Crowland, Ramsey, Littleport, Huntingdon, and Peterborough; Hawes, Carter, and Porter being his most dangerous opponents.

In 1878, George Smart—universally known as 'Fish' Smart—commenced a series of victories which have made his name famous at home and abroad. In the winter of 1879–80 he ran in twenty-seven races, and in the following year in twenty-eight, without once suffering defeat; a wonderful achievement,

although probably mortifying to A. Dewsbury of Oxlode, W. Harrison, Carter, Hawes, and G. See, who ran many an exciting race among themselves, though always outpaced by the renowned 'Fish.' Of these, Dewsbury was perhaps the best man, but his career was closed by a sad accident which rendered necessary the amputation of one of his legs. The 'ruling passion' was, however, strong in him, and I have seen him equipped with one skate and a spike on his wooden leg skimming over the ice, at a speed which made some men with twice his 'understandings' look foolish.

On December 18, 1878, a memorable race was run at Mepal for a prize of 10*l*., for which sixteen of the fastest skaters competed. This event was invested with more than ordinary interest, as it recorded the latest achievements of William ('Turkey') Smart, and of W. ('Gutta Percha') See, and also brought into prominent notice two young skaters whose subsequent careers have made their names famous in the annals of racing, George ('Fish') Smart, 'Turkey's' nephew, and George See, 'Gutta Percha's' son. In the first heat of this race the veterans 'Turkey' and 'Gutta Percha' succeeded in defeating their opponents, and by a singular irony of fate were pitted against each other in the second round. 'Gutta Percha,' the younger of the two men, won this event after a close and exciting race. This was followed by another sensational contest, for in the third round 'Gutta Percha' had to run against his own son. A scene of tumultuous excitement ensued, when in spite of 'Gutta Percha's' most strenuous efforts his son brought home to him the time-honoured proverb, 'youth will be served.' In the meantime George Smart had defeated all his opponents, and became entitled to run in the final heat with young See. He won this race with comparative ease, and from that time the position he was destined to hold for more than a decade was fairly established. This renowned skater earned his sobriquet in early life by his proficiency in swimming and other aquatic pursuits. His admirable physique, combining strength with activity, his

courage and powers of endurance enabled him to attain excellence in many branches of athletic exercise, and he was equally in his element whilst riding his bicycle, or, gun in hand, pursuing wild fowl in the washes of the Fen-country. The late Mr. Neville Goodman, whose opinion on such matters deserves more consideration than that of any past or present skater, considered 'Fish' Smart's style to be almost perfect, and although the admirers of J. F. Donoghue, Pander, Paulsen, or Underborg, may perhaps challenge his judgment, it may be asserted with confidence that there are no two other skaters in the world who can show such a record of victories, unbroken by even a chance defeat, as the two celebrated champions of Welney. It was not until 1889 that 'Fish' Smart, who was then more than thirty years of age, was compelled to cede his honoured position to the third of this remarkable triumvirate, his younger brother James, to whom we all wish a career as long and as prosperous as were those of his uncle and his brother.

The year 1879 may be termed the hegira of speed-skating, for its annals record the inauguration of the National Skating Association, under whose auspices chaos has been reduced to order, the atmosphere of the racing-track has been purified, and duties akin to those of the Jockey Club with regard to racing, or the M.C.C. with regard to cricket, have been relegated to a responsible committee.

In the beginning of that year Mr. James Drake Digby, a gentleman who had always taken a keen interest in skating, secured promises of support from Dr. Moxon, Mr. G. Long, and others, and convened a meeting which was held on February 1, 1879, at the Guildhall, Cambridge, the mayor, Mr. H. Rance, presiding. It was there urged that 'the title of champion skater should be settled by a competent authority'; that 'there should be a standard length of course for all championship races'; that 'records should be officially taken, and kept by a central authority;' and resolutions embodying these principles were unanimously adopted. At a meeting held on March 1 of that year rules of the Association were

drafted, and these were confirmed at a meeting held on the 26th of the following month, when Mr. C. W. Townley, Lord-Lieutenant of Cambridgeshire, occupied the chair. The objects of the Association are thus defined :

To promote, ascertain, and reward speed in skating by the establishment and management of amateur and open Skating Championships of England ; by stimulating and supplementing local action in holding of skating matches ; by establishing an order of merit for speed-skaters, and awarding badges for the same ; by assisting in providing facilities for skating, by the flooding of land in each locality where local branches exist ; and by collecting through corresponding members information of the existence of ice on which skating is practicable, and the supplying of such information to its members.

To promote and encourage figure-skating by the establishment of standards at which figure-skaters may aim, by bestowing badges of merit on those who attain these standards, and by promoting and assisting in the formation of skating clubs. To provide rules and regulations for the game of hockey on the ice. To promote the establishment of international skating contests in various countries under the direction of an international council.

Figure-skating and hockey are elsewhere dealt with in this volume, but a few remarks on the laws of racing which were compiled in 1880, revised in 1887 and 1891, and are generally enforced at all important contests, may be of interest. The following laws of racing are embodied in the rules of the National Skating Association of Great Britain : [1]

1. Competitions for the Speed-Skating Championships of England shall take place on such occasions and in such localities as the committee may determine.

2. All persons being British subjects shall be eligible to compete for the Championship, under the following rules and regulations and such other rules and regulations as may be made, of which due notice is given.

3. The distance of all Championship races shall be a measured mile and a half, with three turns.

4. All persons desirous of competing for the Championship are

[1] Published by Digby & Son, Bene't Street, Cambridge.

required to send their names and addresses, together with an entrance fee of five shillings, to the Secretary of the Association, who shall inform them of the time and place fixed for the competition.

5. All persons entered for the Championship race, including the champion, shall be paired by lot, and run in pairs in the order drawn, the odd man running last in the place of an absentee, if there be any.

6. If any competitor is absent when his proper turn arrives, and does not come to the post within five minutes of the time when his name has been called by the starter, he shall forfeit his right to run.

7. The time of each competitor shall be taken officially.

8. The number of prizes shall be decided beforehand, and the four or six competitors who have made the best time in the first round, whether winners or losers, or odd man, shall be entitled to run in the next round, which shall be final; four will be selected when the competitors are twelve or under, and six when more than twelve.

9. In the final round the four or six fastest competitors shall be again paired; the slowest two shall race first, and the fastest two last; and the prizes shall be awarded according to the order of the times made in this final round.

10. Any competitor without an opponent shall have the right to nominate a skater to run over the course with him in the same manner as his opponent would have done if present.

11. In case two or more competitors make equal time, the money prizes shall be divided, but the Championship title and badge must be decided by a final heat or heats.

12. A starter, judge, and time-keeper shall be appointed by the committee for each Championship race.

13. The mode of starting shall be left to the starter, who shall have power to decide all questions respecting the starts.

14. Each competitor shall be required to keep his own course, and in rounding the turn, the skater who is first up to the turn shall be entitled to the inside turn, but where the competitors are on equal terms when approaching the turn, the skater whose left hand is next the post shall be entitled to the turn.

15. All claims of fouls in a race must be made to the judge immediately after a race, or they will not be entertained.

16. The holder of the title of Champion shall be required to defend his title by skating against all comers whenever he may be

called upon by the committee to do so, and in the case of his refusal or neglect, he shall cease to be Champion and to be entitled to any reward or emolument attached to such title.

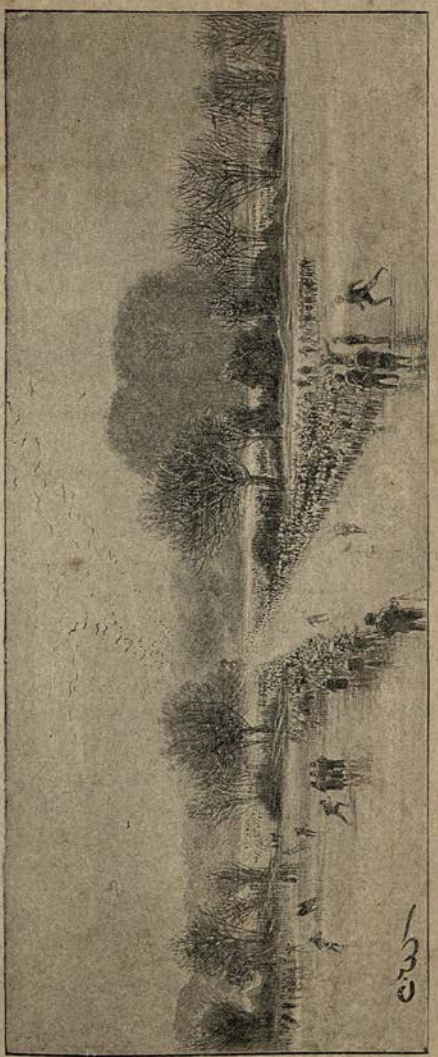
17. The winner of the Championship shall receive a presentation badge bearing a suitable inscription, and a scarf, which latter he shall wear on all occasions when competing for the Championship, and on such other occasions as he may think fit, but shall deliver the same up to the Secretary when he ceases to be Champion. He shall also be entitled to receive at the end of the Association's year in which he holds the Championship such portion of the interest of the sum invested as may be hereafter determined, and any further sum as may by local authorities, or by the Association, be added to the prize.

Laws 3, 7, 8, and 9 suggest a few reflections, and I will try to solve some problems which have presented difficulty to persons interested in straight-away racing, but who are not familiar with that sport as practised in the Fen-country.

It is often asked, Why must races be run in heats? Why are three turns necessary? Why should not a mile race be run on a straight course, a race for two or more miles on an oval track? Why should a mile and a half be the standard length of a Championship course? In reply I would point out that the want of homogeneity in the surface of ice precludes us from comparing it with the turf of a racecourse, or even the reaches of a river, and that it is seldom, if ever, possible to find a suitable course a mile in length; that absolute fairness can only be secured by arranging that all competitors shall profit by the same advantages, and encounter the same imperfections, and that this object can only be attained by an 'out-and-home' race. It must also be borne in mind that quick turning, and facility in starting again with speed, have been from time immemorial important features in Fen-racing, and moreover that the force of the wind plays so important a part in aiding or impeding speed that the time records of a straight race would be valueless.

These arguments led to the universal adoption of racing in heats (called long ago a 'Welsh main'), but the standard of

length was not decided without discussion. It was urged by some that a two-mile race was best suited to test speed and endurance, but the advocates of the shorter course maintained that, inasmuch as the competitors in the final heat of a race in which sixteen had entered would have been compelled to bring three previous contests to a successful issue, staying powers would have an undue advantage. These arguments finally prevailed, and a mile and a half was ultimately chosen as the standard length of a Championship course. It is so at the present time, and having given satisfaction for more than a decade, is likely to remain unchanged, notwithstanding subsequent legislation



A Race for the Championship—Lingay Fen

which provided for the substitution of time races for the ancient custom of pairing the winners of the first and all subsequent heats until two only were left, and thus obviated the necessity of traversing the course more than twice.

The causes which led to the alterations embodied in laws 7, 8, and 9 claim a moment's consideration. The 'form' of all the crack skaters was so well known that as a rule each race was a foregone conclusion, and it is obvious that if A, a probable winner of the Championship, should have chanced to have been paired with B, who had on previous occasions proved himself to be inferior in speed, although no mean opponent, the claims of friendship alone might suffice to induce the latter to refrain from making exertions which would not ensure his own victory, but which might be prejudicial to that of his friend. It had long been felt that an imputation of dishonest running should never even be suggested; the late Mr. Neville Goodman had repeatedly urged the desirability of the adoption of the custom which obtained at all race meetings in Holland; but an enactment so revolutionary, so subversive of old traditions, could not be passed without some opposition. At a meeting held at Cambridge, November 26, 1887, Sir W. Brampton Gurdon in the chair, present Messrs. Neville Goodman, J. M. Heathcote, F. Tomson, J. D. Digby, Newton Digby, and the Rev. J. Dove, laws 7, 8, and 9 were drafted, and ultimately enrolled in the statute-book of racing. These have been in force since that date, and have met with the general approval of professional and amateur racers.

It remains only to chronicle steps which have been taken from time to time to institute and to exercise control over other competitions which it is hoped may enhance the interest of the annual programme of racing. At a committee meeting held in the autumn of 1879, it was resolved that a three-miles' championship race should be instituted; and also a race open to amateurs, over a course one mile and a half in length, with three turns.

This resolution led to a prolonged debate on the much

vexed question of how an amateur should be defined. On October 1, 1880, the qualification was thus described: 'An amateur is one who has never competed with or against a professional for any prize, and who has never taught, pursued, or assisted in the practice of athletic exercises as a means of obtaining a livelihood since December 1, 1879.' This remained in force until October 1888, when the following amendment to the wording of the definition was carried by a narrow majority: 'That an amateur is one who has never competed in a skating contest for a money prize since December 1, 1879.' This question was again discussed at a meeting of the N.S.A. held in London on October 8, 1892, when the following definition was adopted: 'An amateur is one who has never competed for a money prize, declared wager, or staked bet, and who has never taught, pursued, or assisted in the practice of skating or any other athletic exercise as a means of pecuniary gain; who has not knowingly or without protest taken part in any competition or exhibition with anyone who is not an amateur since December 1, 1879.'

A skater ceases to be an amateur and becomes a professional by—

(*a*) Engaging in skating or other athletic exercise, or personally teaching, training, or coaching any other person for pecuniary gain.

(*b*) Selling, realising upon, or otherwise turning into cash any prize won by him.

(*c*) Accepting remuneration for skating in public, or being employed for money or wages at any skating meeting or elsewhere, as an attendant on skaters.

It is beyond the scope of this treatise to discuss the difficult problems which beset us when we consider the relations which subsist between amateurs and professionals, but we must all regret that the laws of racing were not made sufficiently elastic to admit of a trial of speed between the best amateur of the day and the best professional skater. This regret is especially poignant at the present time; for a race between Mr. J.

Donoghue, of whom all amateurs are justly proud, and James Smart—of whom every Englishman must be equally proud—would be invested with more than ordinary interest. But the laws are like the laws of the Medes and Persians, and, except by a comparison of the times in which they have run over similar courses, we have no means of gauging the relative merits of these eminent racers.

In 1881, the National Skating Association proposed to offer money prizes open to all professionals for a race against time—one mile straight. This suggestion led to no results, but on December 17 of that year it was resolved [1] that :

1. Tests for Speed-skating shall be instituted, for which suitable badges shall be awarded.

2. The conditions under which these badges shall be won are that the candidate shall in all cases skate an accurately measured mile with three turns, in the times hereafter stated.

3. Three tests shall be established. The First Class, or highest badge, shall be awarded to any skater who shall skate the mile with three turns in 3 min. 30 sec., the Second Class badge to any skater who accomplishes it in 4 minutes, and the Third Class badge will be awarded for 4 min. 30 sec.

4. All members of the N.S.A. shall be entitled to compete for the Speed-skating badges.

5. The badges shall not be awarded unless the test has been skated before properly appointed judges and time-keeper.

6. Any member of the Association desirous of competing for the badges may send in his name to the General Secretary, who shall advise him when and where he shall compete, and shall afterwards supply the badge on receipt of a duly signed certificate.

7. The badge shall represent a pair of running-skates on which shall be 'N.S.A.,' and the class in which the holder passed.

Although these competitions have not proved as universally popular as might have been expected, they have met with some support from amateurs, eleven members having earned the Second Class, and thirty-four the Third Class badge.

On December 23, 1881, H.R.H. the Prince of Wales

[1] *Rules of the N.S.A.*, Cambridge, Digby & Son, Bene't Street.

honoured the Association by signifying his willingness to become a Patron, and in January of the following year a similar compliment was paid by H.M. the King of the Belgians, and H.R.H. Prince Alexander of the Netherlands, Prince of Orange. On December 18, 1883, the executive committee of the speed department of the N.S.A. drafted and recommended for adoption rules for the formation of an international council, and the holding of international skating contests. It was proposed that the council should consist of (*a*) one member nominated by each of the royal Patrons; (*b*) four members chosen by the N.S.A., two of whom should be appointed by the speed-skating and two by the figure-skating department of the general committee; (*c*) four members nominated by the Nederlandsch Schaatsenrijders-Bond; and (*d*) a similar number nominated by the National Skating Association of any country taking part in the contests. It was proposed that the objects of the council should be the interchange of information on speed and figure skating, and the promotion of friendly competition between representatives of different nationalities, and the establishment of a speed-skating championship of the world, which should be competed for in an out-and-home race on a course 700 metres in length; i.e. over a distance of 1,531 yards 3 inches.

The late Baron de Salis, of Amsterdam, who by his devotion to skating, by his tact and ability in the administration of Dutch racing, had earned the thanks not only of his own countrymen but of every lover of skating, was instrumental in encouraging a spirit of friendly rivalry between the associations of Holland, Norway, Sweden, Germany, Russia, America, and England, and the international races which will be described in the next chapter illustrate the alacrity to assert and maintain the supremacy of their country shown by their respective champions.

I have endeavoured in these pages to lay before the reader an outline of the work which has been done by an Association which is entrusted with duties of great difficulty, but at the

same time highly important to all who concern themselves in racing. The Association is still in its infancy ; the selection of a course for our championship races which will meet the approval of the competitors, the spectators, and the controllers of the finances, the organisation of international races, and the definition of an amateur skater, present problems which will tax the resources of any council, be it ever so capable, ever so painstaking ; but let us hope that each succeeding year may develop the strength of its administration, and that a long and prosperous career may be in store for it.

CHAPTER VII

MODERN RACING

BY C. G. TEBBUTT

THE date at which the records of Modern Racing may best be begun is conveniently fixed for us by the circumstance that in the preceding chapter the great achievements of 'Fish' Smart and other famous skaters, who made the winter of 1878–79 so memorable, are duly chronicled. I am tempted, however, to repeat the tribute to the prowess of the wonderful skater just named, for in his best day it might be said of 'Fish' Smart, as it was of Eclipse, he was first, and the rest nowhere. A man of fine development, very muscular and athletic, he was likely indeed to excel in any sport. He could not be described as a typical Fenman; for, though very powerful, Fenmen are usually too broad-backed and thick-set to be lithe and active. George Smart bent very little while skating, less than his brother James, and much less than his uncle, W. ('Turkey') Smart, and his stroke was shorter than that of either; but his power of spurting was so exceptional as to impress on all his opponents the hopelessness of defeating him. When once he had become champion it was seldom indeed that anyone succeeded in pushing him; indeed, his races were almost all practically walks-over. He was a very graceful skater, and, from being seldom pressed, he had no occasion to spoil his style by excessive labouring.

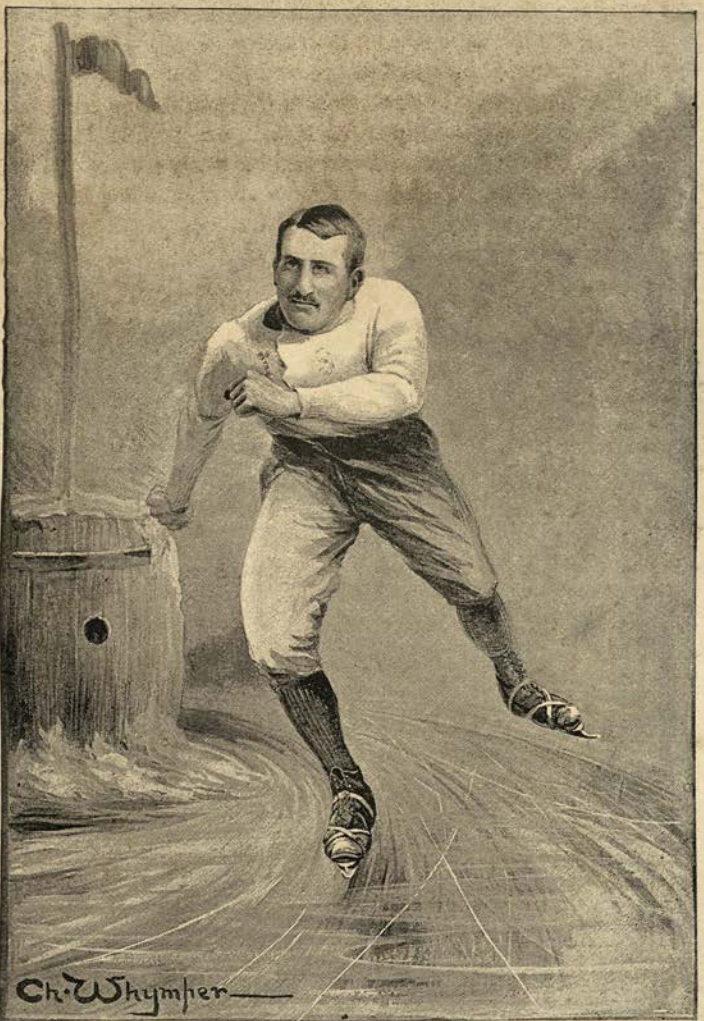
Continuing the records already begun, it may be observed that the winter of 1879–80 was again a grand skating season; the National Skating Association was in full life, and took the

Fenmen for the first time to London. At Swavesey, some Lancashire skaters, who claimed to be the champions of the North, met the Fenmen, with the result that only one survived the first heat, and he failed in the second. Since that date no one has questioned the superiority of Fenmen. The first race, and the first championship of the N.S.A., was held at Thorney, December 8, 1879, George Smart winning easily ; and throughout the season he maintained a clean sheet of wins, finishing on January 30, at Ely, by defeating Dewsbury in the final.

Jarman Smart was second man to his brother. Dewsbury, Carter, Harrison, Boney, and Collison all claimed third place. George See was not seen to such advantage on his pattens as during the previous winter.

Amateur races were for the first time started by the N.S.A., and their first championship was brought off at Hendon, on the Welsh Harp Water, January 26, 1880. Mr. F. Norman, a well-known skater in the Fens, won, defeating Mr. Louis Tebbutt by 3 yards. This winter may be considered as noteworthy for having shown the impossibility of skaters covering a mile in 1 minute, 1 min. 30 sec., 2 min., or even 2 min. 30 sec. It will be hardly now credited that any believed these times for a mile possible ; but many did so. A Senior Wrangler remarked most confidently, at about this date, to a well-known skater, that he supposed the Fenmen could skate a mile in a minute, and many who considered themselves authorities on skating retailed wonderful records of the old skaters, and were confident they skated a mile in two minutes. For the first time, times were so carefully taken and distances so accurately measured, as to be trustworthy.

The most interesting times were those made at the Welsh Harp, over the championship course of $1\frac{1}{2}$ mile with three turns. The ice was in splendid condition ; both professional skaters and amateurs competed, and the best times of the season were accomplished. There had also been skating off and on since December 8, so that for England skaters had had good practice.



JAMES SMART

Dewsbury covered the mile and a half, the fastest time, in 4 min. 53⅕ sec.; F. Bones in 4 min. 53⅖ sec. George Smart's best time was 5 min. ⅕ sec. Unfortunately, Dewsbury fell in his heat with Smart, or Smart might have been pushed into doing the best time. Over the same course Mr. F. Norman did the best amateur time in 5 min. 23⅕ sec., whilst Mr. L. Tebbutt took about ⅗ sec. longer.

The superiority of the professionals was apparent, the best amateur taking some 30 seconds longer in the mile and a half than the second-best professional.

1880–81.—For the third consecutive winter skaters had a good outing, and the N.S.A. arranged, and were able to carry out, a series of matches. The professional championship was held at Welney, January 15, and other races at Crowland, Ely, Cowbit, Birmingham, Elstree, Norwich, Littleport, Upwell, and Whittlesea. The amateur championship (which Mr. F. Norman again won) came off at Cambridge, Jan. 17. George Smart successfully maintained his position of champion, which he had now held for three successive winters. The prominent position of George Smart, and the holding of races in and near large towns outside the Fens, aroused general interest in this Fen sport. Daily and sporting papers soon spread skating news all over the country, and, in fact, it may be said that speed-skating became recognised for the first time as a national sport. The N.S.A. had fortunately been launched upon a high wave of successive cold winters, and was now fairly afloat. The vexed question of how fast 'Fish' Smart could skate, and, indeed, the best time to be expected from the best men, was brought within measurable distance of being answered. Mr. Neville Goodman offered 25*l.* to anyone who would skate a mile without favour of wind in 2 min. 50 sec.; and at Cowbit Wash, on January 20, offered 5*l.* to George Smart if he could cover the mile with a flying start in 2 min. 40 sec., there being no appreciable wind. The ice was not good, and Smart skated the straight mile in exactly 3 minutes. Since this all extravagant estimates and mythical and fabulous times only find

credence with the most ignorant. Alfred Hawes covered the mile the same day in 3 min. 17 sec.; and at Elstree, on January 22, George Smart did the mile with three turns in 3 min. $17\frac{2}{5}$ sec., the ice on the occasion being very good and the wind very slight.

Not satisfied with national honours, negotiations were opened with the Dutch, in the hopes of our best skaters being able to compete in Holland. A qualifying race was then held at Ely, to decide upon the four skaters who should represent England. The distance was 1,400 metres with one turn, and the merits were judged partly by winning heats and partly by time. The fastest times were George Smart, 2 min. $46\frac{3}{5}$ sec.; Alfred Hawes, 2 min. $55\frac{2}{5}$ sec.; Jarman Smart, 2 min. $55\frac{3}{5}$ sec.; and F. Bones, 2 min. $56\frac{2}{5}$ sec. Smart's time represents a mile (1,609 metres) in 3 min. $11\frac{2}{5}$ sec. Unfortunately, the frost broke up before any international race could be held. This year Isaac See, brother to George See, both of them sons of William See the veteran, commonly called 'Gutta Percha,' and James Smart, youngest brother of George Smart, both sixteen years old, began their racing careers, which made them both, but especially Smart, afterwards so famous. In the previous year a Lancashire athlete named Hill, trained to the pink of condition, had defeated George Smart over a quarter-mile course at Carmill Dam; but this year Smart turned the tables on the North-countryman by defeating him at Welney at the opening of the season. This illustrated more than any other feat George Smart's athletic powers. He was quite untrained for the event, had not had his skates on prior to the race, and the distance was so short as to prevent his having much advantage from his Fen style.

The result of negotiations between the N.S.A. and the Dutch Skating authorities was an international match fixed on February 1, but a persistent thaw set in and drowned all hopes of carrying it out. In connection with the St. Ives branch of the Association, Mr. Albert Goodman and Mr. Sydney Tebbutt brought out a standard type of Fen skates. Until

then skates were made by manufacturers who had but little knowledge of the requirements, or by the village blacksmith to the order of a skater. Two kinds were decided upon, one for racing, with thinner blades than had previously been in use; the other, of stronger make, for ordinary skating. These are now the recognised Fen skates, and are made by Messrs. Colquhoun & Cadman, under the supervision of Messrs. A. and C. G. Tebbutt. In 1882, Messrs N. and A. Goodman brought out a work called 'Fen Skating,' both gentlemen being fast and experienced skaters who had taken great interest in the sport. Mr. N. Goodman, M.A., was Chairman of the N.S.A., and certainly no Englishman had indulged so much as he in this pastime. On occasions he had crossed the North Sea to Holland, and explored its canals on skates; there was hardly a Fen drain he had not skated along, or a Fen village he had not visited, in excursions covering 50, 60, and nearly 70 miles in the day. This work, 'Fen Skating,' for the first time gave the public a true insight into the subject, showing how the Fen districts were peculiarly favourable for the development of speed-skating, and for the first time demonstrating that the style of these hardy Fenmen was not a mere scramble or go-as-you-please, but was as perfect a science, requiring as much skill, and was capable of as much finish, as any other athletic exercise; as also that skates of special shape and make were necessary. A carefully thought-out map, with the geography of the Fen drains, by Mr. S. Tebbutt, enables an outsider during a severe winter to make himself master of the Fen districts. This must be considered the standard work on Fen-skating.

The glacial wave which gave us a series of cold winters now passed off, and we were treated to the mild unhealthy wet winters of 1881–82, 1882–83, 1883–84, and 1884–85, during which a few enthusiasts did indeed obtain a day or even a few days' skating every winter, but only by great watchfulness, and many immersions. It may, however, be said that there was in reality no skating until the winters of 1886 and

1887, and it was impossible to bring off any championship fixtures. But if the N.S.A. could not achieve anything in England, they endeavoured, induced by the energy of Mr. Goodman their Chairman, to keep up interest in the sport by arranging with the Dutch Skating Association for George Smart to compete in the first International race at Leeuwarden on January 28, 1885.

It may be just as well here to consider to what condition speed-skating had developed in other countries, since the rest of these remarks will refer largely to international skating.

America.—The historic reputation of Charles June, of Newbury, whose career began about 1838, and the more recent fame of Mr. T. Donoghue, senior, also of Newbury, who from 1863 until within a few years of the formation of our N.S.A. was an unbeaten champion, mark Newbury and the Hudson River as the head-quarters and *venue* of fast skating in the United States. Blessed with many sons to inherit their father's capacity and love for speed-skating, Mr. T. Donoghue was in 1878–79 carefully training up the now well-known Donoghue Brothers.

The distinction between amateur and professional began to be of importance when a ten and twenty-mile Amateur Championship of America was in 1879 inaugurated. Both these races were won by Mr. G. D. Phillips, who must therefore be regarded as about the best skater of the period. Long-distance races had been, and were, the order of the day. We find Mr. John Ennis covering in 1878, at Chicago, 100 miles in 11 h. 37 min. 4 sec., and 145 miles in less than 19 hours. As elsewhere, fabulous times were credited to different skaters, and Mr. W. B. Curtis (who is connected with the leading sporting paper of America, 'The Spirit of the Times,' and is a devotee of speed-skating) determined to find out the real speed of skaters, and to expose the absurd legends of marvellous times which were then current, viz.: 1 mile with one turn in 1 min. 58 sec., and 30 miles in one hour, &c. In 1880 the journal in question challenged anyone to equal these times, and

in 1881 offers were made of $250 to any skater who could skate one mile on a six-lap track in less than 2 min. 50½ sec., or beat the then bicycle records from 1 mile (2 min. 47 sec.) to 1,000 miles, or the running records from 50 to 200 yards. In 1882 the principal event was a skate of Mr. J. S. Montgomery, of 50 miles in 4 h. 13 min. 36 sec. at New York, establishing records from 25 to 50 miles.

We find in Canada that speed races were held at the principal towns, such as Montreal, Halifax, Charlotte Town, &c., in connection with their different carnivals, and, in 1881, Brown won the gold medal in the championship of Montreal. In 1883, the best amateur skaters were Messrs J. H. Stewart, Elliott, A. Scott, and, until he became professional, F. Dowd. Races were held (on account of the snow) on small, often covered-in rinks, about 14 laps to the mile; and when in 1883 Axel Paulsen, of Norway, visited America for the first time, and competed in a five-mile race at Victoria Rink, Montreal, he could not go round these small turns at any speed, and was easily beaten. In 1884, Paulsen again crossed the Atlantic, and as an amateur this time carried all before him. First at New York in a 25-mile race, he covered the distance in 1 h. 33 min. 28 sec.; then travelling to Milwaukee, he defeated Dowse, and, returning, won the Great International 10-mile match at Washington. In this race R. A. Elliott and C. H. McCormick from Canada, Hemment from London, Franklin from Norway, and G. D. Phillips, C. Pfaff, S. O'Brien, and J. S. Montgomery of the United States competed. Excepting Messrs. S. D. See, A. Stewart and T. Donoghue, jun., all the best amateurs of the New World were included. Paulsen's time was 36 min. 7⅗ sec.; Elliott was second, and Phillips third. This year, 1884, the United States Skating Association was formed to promote amateur skating, and the energies of Mr. W. B. Curtis were recognised by his selection as its first President. The first race held under the N.S.A. was over a five-mile course. The most noteworthy feature was that no skater covered the distance without a fall, while some fell several

times. The ice was shockingly bad, and elicited from an Irishman the remark, 'that when next he came there to skate he would go somewhere else.' S. O'Brien eventually won, and Mr T. Donoghue was second. During 1883 and 1884, Mr. G. A. Phillips, whose forte was short-distance racing, sprinted 100 yards in $10\frac{3}{5}$ sec., 220 yards in $22\frac{3}{5}$ sec., and a $\frac{1}{4}$ mile in 44 $\frac{1}{5}$ sec. without favour of wind, and from a standing start.

Professionalism had died out in the United States, and only survived in Canada. Professionals were undoubtedly superior to the amateurs, and acquired extraordinary proficiency in spinning round the small rinks The best men were McCormick, Black, F. Dowd, Lardham and Connell ; Whelpley having had to give way at last owing to advancing years.

A most important event was the compiling by Mr. W. B. Curtis of authenticated amateur times, and the publishing them in 'The Spirit of the Times' on May 17, 1884. These times were given for from 75 yards to $50\frac{1}{4}$ miles. Knowing the pitiless but impartial scrutiny to which they were subjected before being passed and allowed, I may remark that there can be no doubt of their accuracy. Since 1884, the list has year by year increased, till it now covers some five or six columns of closely printed matter, and to those interested in speed-skating is full of valuable notes and details.

Before 1884, and since, the 'Clipper' and the 'World' have yearly published a list of athletic records, containing professional as well as amateur times.

Norway.—Skating in Norway dates back some 100 years or more, and Odalen was considered the Norwegian Welney for skaters, but it was Axel Paulsen who made speed-skating of national instead of local interest. His father, A. Paulsen, like the fathers of all the present great skaters, was interested in skating, and in 1865 was the chief promoter of races.

A race was held over 1,500 Norwegian ells, or 1,040 English yards, in 1863, which is remarkable for the number of entries, and times given. There were 140 entries, of whom 70 started. Mr. Nansen is declared to have won in 50 sec., or at a rate of

42½ miles an hour, or a mile in 1 min. 25 sec. None of the 70 took longer than 90 sec., or skated at a less rate than 23½ miles an hour, or a mile in 2 min. 32½ sec. These times must, I fear, be catalogued with a long list of others hailing from all skating countries, under the heading of 'Too good to be true.'

In 1878, over a 8,500-metre course, Frith Nansen won in 14 min. 20 sec.; Bodin was second. In 1880, another important race over a 5,000-metre course was won by Axel Paulsen in 11 min. 11 sec.; F. Nansen second, 11 min. 27 sec.; and L. Strom third, 11 min. 48 sec. In 1882, Axel Paulsen, P. O. Aune and Carl Verner left Norway to compete in the Vienna races, which were held on January 21 and 22, over a 1,600-metre course; Paulsen won, Aune second, Verner third. The Bavarian and Vienna skaters were nowhere against the trained Norwegians. We have seen how, in 1883, Paulsen suffered defeat in Canada, and how, undaunted, trusting to his superior training and the improvement he had made in racing skates, he returned and swept America of amateur prizes.

Holland.—Whilst the feature of racing in America prior to 1885 was long distances, and in England one and a half to two miles, in Holland the courses were very short and straight, only in fact about 160 metres, or 175 yards about, in length. As in England, races were for money, and the competitors all professional skaters. The Frieslanders, like our Fenmen, carried all before them As Holland has been dealt with in the preceding chapter, there is no need to give more details here.

International Racing.—Having referred to the speed-skating of different countries, let us now consider the important international race at Leeuwarden, where for the first time the English and Dutch met. Axel Paulsen and Carl Verner, the Norwegians, had also entered for the race, and actually arrived from Norway at the scene of action the night before, but, complaining of the sharpness of the turn, would not compete. Besides George Smart, C. G. Tebbutt and S. Burlingham came from England, and all the best Dutchmen competed. The result was the Dutch champions divided the prizes as they

liked. Benedict Kingma beat Smart, P. Bruinsma defeated Tebbutt (who fell), and Huitema won from S. Burlingham. It was well known that the famous George Smart was but a poor specimen of his former self; for over the course the previous day, in a trial with Mr. Tebbutt, it was all he could do to hold his own instead of coming in a good hundred yards or more ahead. The English also had had no skating, or, at best, only a snatched day or two, since 1881; still, with a knowledge of their disadvantages, all felt the result to be most discouraging. On the eve of the race the course looked magnificent, the half-mile out and half-mile back again all roped in and lined by hundreds of national flags. The ice was from a foot to eighteen inches thick, and though alarmed by threatening clouds, Baron de Salis, Secretary of the U.S.A., assured the English that 500 sweepers were available to clear the course of any snow that might fall. Next morning the temperature was like summer; rain had fallen, and the course in places was covered with one to two inches of water. The night before the race, the winner, P. Bruinsma, announced that he was to be the next day's champion, since the Dutch champions had met and had arranged for each to win one of the various contests, his being this international one. Even the results of the heats were decided upon beforehand; all outsiders, English or Dutch, were to be pushed hard and beaten; but should two of the circle of champions meet, it was to be a walk over, the winner being left fresh for the next heat. Surely enough in the final Van der Zee, clearly the best man, and well ahead, slowed up at the finish, and beckoned to P. Bruinsma, who was evidently exhausted, to pass him and win. This pre-arrangement is no new idea, and indeed has been practised in the Fens. An outsider was always handicapped, and it required a skater a head and shoulders above the whole clique to come in and win; as William 'Turkey' Smart did when, one after another, he defeated all the Southern skaters and founded the Welney school.

The result of this race effected an important change in skating. That genuine sportsman Baron de Salis determined

to put a stop to this kind of racing, and, being backed up by Mr. J. van Butingha Wichers and others, decided upon the time test, which has since been maintained in spite of a natural opposition to it. Later on Mr. Neville Goodman, who had been consulted, and from the first approved of this way of deciding races as evidently the fairest, prevailed upon the N.S.A. to adopt it, and the success which attended the Dutch races removed most of the opposition to it in England. Formerly, when once a skater like George Smart became champion, scarcely anyone ever tried to push him, and if in the final a skater presumed to try conclusions with him, he found the champion quite fresh from his previous walks-over. The times done by the champion under the old system did not represent his real speed, and often other heats were much faster. Many examples of races might be given. Thus at Cowbit Wash, on January 1, 1887, Mr. Wadsley, after a neck-and-neck race, defeated Mr. C. G. Tebbutt in the best time of the day, viz. 5 min. $33\frac{4}{5}$ sec. over the mile and a half course. He next met, and after a hard race beat, Mr. F. Norman, the then amateur champion, his time being 5 min. $46\frac{2}{5}$ sec. In the final he was defeated by Mr. R. Wallis by 12 yards, the winner's time being 5 min. $41\frac{1}{5}$ sec. In his previous heats Mr. Wallis was never pushed, his times being 5 min. 53 sec., 5 min. $52\frac{2}{5}$ sec., and 6 min. $3\frac{2}{5}$ sec. It is too much to say that Mr. Wadsley would have defeated the champion if they had met in the first heat; but it is not improbable that, had they exchanged opponents, the result of the final might have been different.

The effect of the time test is to bring out the relative position of the skaters, for a skater has not simply to defeat his opponents, but must from start to finish do his best. Under Baron de Salis's system, those who did the four best times raced for the final positions, and it has never been found safe, however good a skater considers himself, to take matters easy in the hope of being fresh for the final, as Messrs. Norsing and Grunden found at Hamburg in February 1891. Both knew no one could hold a candle to them, both had won a race, and

a winner of two events secured the title of the Champion of Europe. Norsing in the third race was drawn against Grunden. Instead of racing, they played together until the final lap, simply spurting for the result at the finish, which Norsing won; but Underborg and Schon afterwards did better times, and came in first and second. Mr. Norsing will not soon forget how he lost the Championship of Europe.

Another good feature which resulted from the race at Leeuwarden was the establishment of the mile—1,609 metres—as the recognised test distance for skating. The Fries skaters were naturally wedded to their short and exciting 160-metre bursts of speed, not too tiring to prevent the skaters from rapidly recovering for the next race. But after their first experience of the mile race, when the Dutch came off so well and the English so ill, they felt constrained to agree to the longer distance. Whether the mile is far enough to suit the Fenmen is doubtful. Our championship course is one and a half mile, and two miles is generally considered a better test of style and endurance.

As the Dutch had failed to meet Paulsen and Verner at Leeuwarden, Van der Zee and B. Kingma went during February to Christiania to skate the Norwegians on their own course. It was a three-mile race, and quite unsuitable for the Dutch skaters. Paulsen came in first, 11 min. 8½ sec.; Van der Zee second, 12 min. 13½ sec.; Kingma third, and Verner fourth. From this it would appear that Paulsen might easily have won at Leeuwarden. On January 27, 1885, an Englishman living in Germany, Mr. Louis Tebbutt, showed what could be done by a little practice. Over a course about three times round to the mile, he completed 101 miles in 11 h. 40 min., doing the 100 miles in 11 h. 33 min., securing the record for that distance.

The winter of 1885–86 was another blank, the keenest skaters only obtaining one or two days on the ice. All the world over, indeed, the weather was exceptionally mild. Norwegians, Dutch, and Germans met, however, at a race at Hamburg on January 22 and 23, 1886, and in the mile Paulsen

was again first, 3 min. $5\frac{2}{5}$ sec., with De Vries, a Dutchman, second, 3 min. 6 sec. In the 3,500-metre race Paulsen was once more first, 7 min. $14\frac{3}{5}$ sec.; Veninga, a Dutchman, second, 7 min. 30 sec. The United States N.S.A. were only able to bring off a few events.

1886–87.—The year 1886–87 saw a full establishment of the time test, the coming forward of new champions, the development of amateur races, and the trials of new kinds of courses. When the new year opened Mr. R. Wallis wrested the Amateur Championship from Mr. F. Norman, who had held the title since its formation in 1879, although he had taken part in only two contests during the seven years. Two days later George Smart again won the Professional Championship, though many thought that George See and James Smart were his superiors. These championship races were the last held on the old lines.

The Dutch N.S.A. Amateur Championship came off at Slikkerbeer on January 19, and for the first time the whole arrangements were carried out in the new style, distance one mile, shape of course a horseshoe, half-mile out and half-mile return. The four best performers skated again, and according to the times were placed in order of merit. If the weather had only been as excellent as the arrangements, all would have been perfect; but alas! a rapid thaw affected the thin top surface ice, which allowed the skaters to cut through, and spoilt alike the pleasure of the onlookers and the pace. The writer and his brother, Mr. A. Tebbutt, were the only English competing, and they were so delayed *en route* that they arrived whilst the races were in progress. Mr. C. G. Tebbutt won the Championship, and for the first time the Dutch suffered defeat at the hands, or rather the feet, of an Englishman. Messrs. Vollenhoven, Pander, and Bloomenstein, all Dutchmen, were respectively second, third and fourth.

Two days before, the Dutch professionals, Arie van den Berg, Benedictus Kingma and Veninga, had met Harald Hagen, the Norwegian, who was superseding Axel Paulsen, and the

Germans, Lundblad and Grouth, at Hamburg. Van den Berg won the mile race in 3 min. 16⅘ sec., Hagen being second, although in a previous heat Hagen had only taken 3 min. 13 sec. The Germans were last. In the 3,500-metre race, Hagen was a good first, Van den Berg second, with 10 seconds longer. A month later, February 16th and 17th, Van den Berg and B. Kingma entered the list against George See and James Smart. Dissatisfied with the performance of George Smart in 1885, and in opposition to the wishes of many, Mr. Neville Goodman was determined again to try the chances of war against the Dutch. With the generous help of Mr. H. Few and some others, Mr. Goodman took the eldest son of the once famous William See, and a nephew of the still more famous William Smart, who was also youngest brother to George Smart, over to Holland. This almost historic encounter came off at Slikkerbeer; the ice was in splendid condition, there was very little wind, and the skaters were fit. Three races were held: one mile, 3,500 metres, and a short race of 320 metres. See and Smart did full justice to the confidence placed in them, and finished first and second in the first two races, but were nowhere in the short 320-metre race. The times made were extraordinary, and are world records. One mile: George See, 2 min. 53 sec.; James Smart, 2 min. 53⅘ sec.;—3,500 metres: See, 5 min. 45⅖ sec.; Smart, 5 min. 51 sec.;—320-metre race: Van den Berg, 28 seconds; Kingma, 28⅖ seconds. The times were considered by some critics too good to be true. They were, however, taken by two officials with well-tested stop-watches, and at the request of Mr. Goodman, Baron de Salis had the courses remeasured by a Government surveyor, when they were found correct. If these times are not trustworthy, it may be asked what times can be depended on?

Across the North Sea, Hagen, with youth on his side, was replacing Axel Paulsen; and Mr. E. Godager won the first Norwegian amateur championship, held at Hamar, covering 5,000 metres in 10 min. 29 sec. Amateurism was getting strong in Scandinavia, and to win races it was necessary to be in good

training. The blades of racing skates, it may be observed, were becoming thinner, flatter, lighter, and longer, prolonged behind the heel and in front of the toe.

In the west, across the Atlantic, in Canada, McCormick defeated the boy F. Dowd in five races. All the races were round a rink fourteen laps to the mile. In the 5-mile race McCormick made the following wonderful times :—first mile, 2 min. 58 sec. ; second, 6 min. 45 sec. ; third, 10 min. 46 sec. ; fourth, 14 min. 50 sec. ; and fifth, 18 min. 40 sec. Thus the four great champions of their respective countries were George See, England ; Arie van den Berg, Holland ; Harald Hagen, Norway ; and Hugh McCormick, Canada : all professionals. The U.S.A brought off some of their Amateur Championship races. The 220 yards straight away Mr. G. D. Phillips won in $20\frac{2}{5}$ sec. ; 25 miles, Mr. F. W. Craft, 1 h. 39 min. 22 sec. One mile, Mr. T. Donoghue, 3 min. $14\frac{1}{5}$ sec. A straight mile was measured on the Hudson River to see in what time the distance could be covered with a strong wind in the rear and with a flying start. A favourable opportunity occurred on January 31. The ice was good, and a very strong wind was blowing. Several tried the mile with a flying start. The best time was done by Mr. T. Donoghue in 2 min. $12\frac{3}{5}$ sec. ; the wind we are told freshened very much at the time, as without it such an extraordinary time would be impossible.

A series of letters by Mr. N. Goodman came out in the November Nos. of the 'Field,' upon Subscription *versus* Gate, Time *versus* Tape, and the Best Courses. They contain a good deal of information about those subjects, and are of value to those who wish to become versed in skating matters.

The courses in use in England are the old-fashioned parallel courses ; each skater taking one side and crossing over to the other, at each end. In Holland the courses have straight sides, big curved ends, and each skater has a separate course. To equalise the difference in the inside and outside courses, at each round the skaters change over. In Canada small rinks are used with no division between the competitors,

and when only two opponents meet they were started from opposite sides. In the United States they have straight sides with curved ends, but with no division between the skaters, all the competitors starting together. The Dutch system is evidently the best and fairest.

At a meeting of our N.S.A. it was decided to adopt the time test.

1887–88.—The winter of 1887–88 was a failure as far as racing in England was concerned. On January 5, Mr. N. Goodman, with George and James Smart, George See, and Mr. C. G. Tebbutt, hearing there were skating and racing fixtures in Holland, went over to Heerenveen. It was but jumping out of the frying-pan into the fire, and all soon returned. After the new year opened, however, frost set in and a number of important races were held. Mr. Alexander von Panschin, on January 8, at Vienna, won the Austrian Championship of one mile (less nine yards), defeating Mr. Blatter, the last year's champion. The United States N.S.A. races, after some trouble, came off on January 20, 21, 25, and 28, with the following as winners :— ⅛ mile, Mr. S. O'Brien, 22⅖ seconds ; ¼ mile, Mr. T. Donoghue ; one mile, Mr. T. Donoghue, 3 min. 46⅕ sec. ; Mr. Joseph Donoghue second ; ten miles, Mr. Joseph Donoghue, and T. Donoghue second ; twenty-seven miles 1,366 yards, Mr. T. W. Craft.

At Copenhagen, Mr. T. Grouth, on January 29, won the one-mile race in 3 min. 40 sec. At Hamburg, February 1 and 2, Mr. J. H. Harms won the 3,000 metres and 7,500 metres races. At Christiania, Feb. 5, Mr. Fritz Lulu secured the one-mile race in 3 min. 2⅕ sec., whilst at Amsterdam, on February 25, Mr. Jurrjens won the two-mile race in 7 min. 16 sec. All the above are international amateur races. The important professional races are as follows :—at Amsterdam, on February 28, James Smart won the two-mile international race, George See second, Van den Berg third, Kingma fourth. Smart's time was 6 min. 46 sec. For the first time he showed his superiority to See, and that he was really the best Englishman. At

Jos. F. Donoghue and Alex. von Panschin
In the Two-Mile International Race at Amsterdam, January 10, 1889
(A Sketch made at the time)

Christiania, Hagen again defeated Axel Paulsen in a ten-mile race; the time given was 33 min. 26 sec. Previous to this Paulsen had beaten Aven, the Swedish champion, in a five-mile race. Having leave to use the Amsterdam racecourse, Mr. C. G. Tebbutt skated forty miles in 3 h. 0 min. 7 sec. on March 1, and secured the record for all distances above twenty-five miles. Axel Paulsen skated backwards a mile in 3 min. 31⅗ sec. The position of the professionals was unchanged, excepting that James Smart took the place of George See for England. It is difficult to classify the position of the amateurs.

1888–89.—The weather during the winter of 1888–89 was of a sort that permitted most of the championship races to be held, but after all it was a stingy permission. In the English races, January 4, James Smart took his proper place as champion; his time for a mile and a half was 4 min. 56 sec.; George See, his cousin, was second. Mr. William Loveday won the Amateur Championship, displacing Mr. R. Wallis, time 5 min. 15⅕ sec.; his brother J. Loveday was second. This was certainly a Welney year, as the above winners all hailed from this out-of-the-world but world-renowned village. The greatest races of the year were held at Amsterdam on January 8, 9, and 10, where, for the first time, Dutch, Russian, American, and English met. Result obtained: ½ mile: A. Panschin, 1 min. 24⅘ sec.; K. Pander, 1 min. 30 sec.; W. Loveday, 1 min. 32 sec.; C. G. Tebbutt, 1 min. 32 sec.; Mr. Joseph Donoghue fell. 1 mile: Von Panschin, 2 min. 58⅗ sec.; Donoghue, 3 min. 0⅕ sec.; Jurrjens, 3 min. 7⅕ sec.; L. Tebbutt, 3 min. 12⅗ sec. 2 miles: Donoghue, 6 min. 24 sec.; Panschin, 6 min. 31 sec.; Jurrjens, 6 min. 43⅕ sec.; Pander, 6 min. 46⅘ sec. Our illustration, made from a sketch on the spot, shows Donoghue wresting the victory from Panschin at Amsterdam—after having been twice beaten by the latter at shorter distances.

Mr. Alexander von Panschin represented Russia, Mr. Joseph F. Donoghue crossed the Atlantic to represent the United States, whilst K. Pander and J. Jurrjens represented

the home country. W. Loveday and the brothers Tebbutt did battle for England.

Mr. Von Panschin met and defeated the American at Vienna on January 13, over a course about a mile long, winning again the Austrian Championship. Mr. A. von Panschin was certainly the fastest amateur miler in the world. At Hamburg Mr. Donoghue easily defeated the Germans on January 15 and 16, before he left the Old for the New World. Another important event was the inauguration of the Swedish Amateur Championship, contested for the first time on February 17 and 24 at Stockholm. The Norwegians swooped down and carried off everything. Mr. E. Godager won the 5,000-metre race in 10 min. $5\frac{3}{5}$ sec; A. Norseng, second, in 10 min. $5\frac{3}{5}$ sec. In the 10-mile race, Godager again won; 33 min. $21\frac{1}{5}$ sec. In a one-mile race with a flying start, Godager came in first, 3 min. $5\frac{1}{5}$ sec., and was undoubtedly Amateur Champion of Scandinavia. The United States N.S.A. finished their season with a meeting on February 22, the result being that the $\frac{1}{8}$th-mile Mr. T. Donoghue won; the 1 mile, Mr. H. P. Mosher; 5 miles, Mr Joseph F. Donoghue, with his youngest brother James a yard behind; 10 miles, J. Lappe (skated late at night).

1889–90.—For those who depended on the English climate for skating, this winter proved almost a failure; and for racing, a failure altogether. Abroad, the importance of training was beginning to be felt. In the previous year, Mr. A. von Panschin had, on October 7, started his $2\frac{1}{4}$ months training, and in consequence was able to defeat men much superior to him in style. The Norsemen held their races late in the winter during February and March, so as to be well fit. Seeing the importance of early training, the Dutch N.S.A. sent Mr. K. Pander and Marten Kingma to St. Moritz, a winter resort situated high up among the mountains in the Engadine, and surrounded by several small lakes, and the climate being such that winter begins a month earlier than elsewhere in Switzerland. The result of this early training was seen at Amsterdam

during the international races held January 3, 4, and 5, where for the first time Russians, Norwegians, and Dutch met and fought out the battle of supremacy.

Half-mile: Pander, 1 min. 22⅘ sec.; Norseng, 1 min. 24 sec.; Panschin, 1 min. 26 sec.; Godager, 1 min. 27 sec. One mile: Pander, 3 min. 6 sec.; Norseng, 3 min. 7 sec. Two miles: Norseng, 6 min. 25 sec.; Pander, 6 min. 33⅘ sec. Five miles: Norseng, 16 min. 48⅘ sec.; Jurrjens, 18 min. 33⅘ sec. Messrs. Norseng and Godager represented Norway. The winner of three out of the four events was to receive the title of Champion of the World. This no one was able to claim. Influenza was raging at the time and considerably thinned the ranks of the competitors. This was the influenza year, and every third man in Amsterdam, specially officials, such as policemen and postmen, was affected by it. Every morning anxious enquiries were made: 'Where's so-and-so?' and the answer always came 'Down with influenza; he won't skate to-day.' Panschin, Godager and Pander were all warned off the course by it. The Dutch had never been so well represented, nor had they placed a man on the ice so fit as was Pander, and his success was very encouraging to them. The splendid style of Norseng and Godager indicated that Norwegians were in the first rank of speed-skaters. Alas! one event overshadowed everything. The Hon. Sec. of the N.S.A., to whom more than to anyone else the success of these Dutch races were due, and whose motto always was, 'May the best man win, but may a Dutchman be the best,' survived the success of Pander but a very short time. Baron de Salis's death was an international loss.

The next important event was the meeting held by the United States N.S.A. on January 29, after three postponements. Mr. J. F. Donoghue for any distance over a mile found no superior. The quarter-mile straight away was won by Mr. H. P. Mosher, 37⅕ sec.; 1 mile by Mr. J. F. Donoghue, 3 min. 28⅕ sec.; and five miles, Mr. J. F. Donoghue, 17 min. 50⅕ sec. The second-best man in the United States was un-

doubtedly Mr. James Donoghue, the youngest brother. The first Russian International Amateur race was held on February 20, over a half-mile course, and the result as follows :—One-third mile : Linsted (Russian), 50 seconds ; Von Panschin, 51⅗ sec. One mile : A. Norseng, 3 min. ⅕ sec. ; Linsted, 3 min. 6⅕ sec. ; Baltshifsky (Finn) : 3 min. 10 sec. Three miles : Norseng, 9 min. 26⅗ sec.

The International meeting at Stockholm was held on March 2, great interest being felt as to whether the Norwegians or Swedes would come out victorious. In the previous year the Norwegians had carried off everything, this year the Swedes more than held their own. The course was triangular, one-third of a mile round, and the following results were obtained :

One mile : O. Grunden (Swede), 2 min. 55⅖ sec. ; T. H. Thomas (Swede), 2 min. 55⅗ sec. ; Ostersen (Swede), and Fredericksen (Norwegian), 2 min. 55⅗ sec. ; Fjoestad (Swede), 2 min. 55⅘ sec.

In the 5,000-metre race, Fredericksen, 6 min. 19⅘ sec. ; T. H. Thomas, 9 min. 32⅘ sec.

It will be immediately noticed that the first five skaters in the mile all did extraordinarily fast times, faster indeed than the hitherto amateur record of 2 min. 58 sec., though Fredericksen was only 17 years of age. K. Pander competed, and covered the mile in 3 min. 2⅖ sec. ; but that was no good against the Norsemen.

The third Canadian meeting was held on February 25 and 26, and consisted of figure-skating, hurdle-racing, backward skating, and other fancy contests. C. Gordon won the 220 yards race in 25 sec. ; F. D. Carroll the ½ mile, 1 mile, and 5 miles. No important professional races were held, except that between Axel Paulsen and Hugh McCormick, at Montreal, where the Canadian won as he liked. This year further demonstrated that, since skating can only be indulged in on ice, and it is impossible properly to train without skating, residents in countries which have the longest and severest frost have the best chance of becoming the speediest skaters.

In the spring of 1890 came the sad loss of another chief promoter of speed-skating, one whose name will always be associated with the sport in this country. To Mr. Neville Goodman more than to any other is due the high position which we hold in the skating world. Passionately fond of the pastime, a born sportsman, naturalist and writer, and with the purest instincts, he was universally as popular as he deserved to be. His fairness, and determination to keep skating free from those associations which have unfavourably affected so many of our good old English sports, won for him the respect and admiration of all skaters, and the gratitude of true sportsmen.

1890–91.—This was what is commonly called a 'good old-fashioned winter.' From early in December until late in the season the frosts were unusually severe. Feeling how heavily our Fenmen were handicapped by the want of practice when competing against foreigners, Mr. C. G. Tebbutt determined to send James Smart and George See to St. Moritz, and through the liberality of the public, a donation from the N.S.A., and the great kindness of Mr. J. de B. Strickland at St. Moritz, our professionals were sent there on December 1. Frost burst upon us immediately afterwards, but the week's practice and change our men obtained was of great assistance to them. The Dutch had also sent Marten Kingma and Mr. Houtman to train in Norway, and the Manhattan Athletic Club despatched Mr. Joseph F. Donoghue to Norway to prepare himself for the European races. He arrived during October. After a race with Fredericksen at Hamar, which the American won, he was sent for to Heerenveen, where all met to compete for the Dutch Championships, Messrs. Landahl and Hille also arriving from Germany. For perfection of arrangements, number of spectators, variety of races, and quality of competitors, this was the most important series of races ever held; indeed, the arrangements were on such a huge scale that no ordinary Dutch winter frost will suffice to carry them out. There were the Dutch National Championship races. Since Bruinsma won the

Professional Championship in 1885, and Mr. C. G. Tebbutt the Amateur Championship in 1887, the Dutch N.S.A. had been unable to bring off an event. On the first day, December 17, the meeting opened with a straight ¼-mile race, three skaters competing at a time. Hanje was first; Merk Kingma second, 51⅕ sec.; Benedictus Kingma third. Besides the Dutch only George See skated, but he was of no use over such a short course.

The One-Mile Amateur Championship over the horseshoe course Mr. J. F. Donoghue won, 3 min. 9⅘ sec.; Landahl, 3 min. 32 sec.; K. Pander, 3 min. 35⅕ sec.; J. D. Houtman 3 min. 39 sec. There was too much wind to favour the best times. During the second day the conditions were more favourable. Three-mile race: Mr. J. F. Donoghue, 9 min. 17 sec.; Landahl, 10 min. 40⅕ sec.; Hille third, Houtman fourth.

There was a very fine race for the Dutch Championship, one mile round the horseshoe course, and James Smart won in 3 min. 7 sec.; Marten Kingma, second, 3 min. 8⅘ sec.; George See, third, 3 min. 11 sec.; Van der Schraff, fourth, 3 min. 17⅗ sec. Returning to England, James Smart, on December 23, won also for the second time the English Championship, 1½ mile with three turns, 4 min. 52⅛ sec.; George See, with 5 min. 4⅘ sec.; A. Kent, 5 min. 17⅔ sec.; Isaac See, 5 min. 18⅘ sec.

James Smart's time is the best ever made by an Englishman. Most of his races in England were under the time test, and he never suffered defeat, having won at Cambridge, Boston, Littleport, Chatteris, St. Ives, Huntingdon, Tottenham, and Wisbech. George See was undoubtedly second best.

Marten Kingma, except for his defeat at the hands of Smart, won every race in Holland. Wiebe de Vries, B. Westra, Arie van den Berg, Benedictus and Merk Kingma sharing second honours. At Groningen, Marten Kingma covered the mile in 3 min. 5 sec. Klass Hanje for the first time suffered defeat in a 200-metre race at Amsterdam by B. Decker.

After James Smart and George See, the best of the Fenmen

were Isaac See, William Smart, W. Boon, T. Pickering, R. T. Seamark, H. Kent, and A. Hawes.

Another important professional event was the visit to Norway of the Canadian veteran, Hugh McCormick. He suffered defeat at the hands of Harald Hagen at Christiania in three races. Hagen's time for the five miles was given 15 min. 56 sec.

Continuing with the amateurs, the next event after the Dutch National races was the English Championship, which Mr. W. Loveday again easily won on December 18.

On the 24th the first International race ever held in England came off at Cambridge. Unfortunately Mr. Joseph F Donoghue was the only foreigner; he won very easily. One and a half mile: Donoghue, 4 min. 46 sec.; W. Loveday, 5 min. 7 sec.; R. W. Rowe, 5 min. 17 sec.; C. G. Tebbutt, 5 min. 17 sec.

Returning to Holland, Donoghue won all the four events at the International races held at Amsterdam on January 6 and 7.

Half-mile: J. F. Donoghue, 1 min. 25$\frac{2}{5}$ sec.; K. Pander (Dutch), 1 min. 30$\frac{1}{5}$ sec.; J. J. Eden (Dutch), third. One mile: Donoghue, 3 min. 0$\frac{3}{5}$ sec.; K. Pander, 3 min. 11$\frac{2}{5}$ sec.; A. Underborg (German), third.

Two miles: Donoghue, 6 min. 10$\frac{4}{5}$ sec.; Pander, 6 min. 38$\frac{3}{5}$ sec.; Van Dissel (Dutch), third.

Five miles: Donoghue, 16 min. 1 sec.; Pander, 17 min. 4 sec.; Underborg, third.

For the first time thus Mr. Joseph F. Donoghue won the title of 'Champion of the World.' Returning to the United States, he secured again all the events in the Amateur Championship races held on February 7. The winners of the second prizes were in the ¼-mile H. P. Mosher. One mile: Jas. A. Donoghue. Five and ten miles: E. Simpson. Mr. Joseph F. Donoghue's times were respectively 37 min. 0$\frac{4}{5}$ sec.; 3 min. 2$\frac{3}{5}$ sec.; 15 min. 36$\frac{2}{5}$ sec.; and 35 min. 54$\frac{3}{5}$ sec. The Norwegian amateur racing began by Henrick Lindahl winning the 500-metre, one mile, and one and half mile races, with Olaff Nordfvedt second.

At Hamburg, January 23, Messrs. Adolf Norseng, Oscar

Grunden, and K. Pander met the best of the Germans in their International races. The third of a mile Grunden won in 55⅕ sec.; Norseng, 55⅖ sec.; Pander, 57⅕ sec. The one mile Norseng won in 2 min. 59⅘ sec.; Grunden, 3 min. 1⅖ sec.; K. Pander, 3 min. 5⅖ sec.

To claim the title of Champion of Europe it was necessary to win two out of the three events, and as Grunden and Norseng had each won an event, and were far superior to any of the Germans, it was considered a certainty for one of them; but the result was a surprise, for in the three-mile race, Underborg (German) did best time in 11 min. 53⅘ sec.; Schon was second, and Norseng third.

The fact was, Norseng was drawn against Grunden, and, as previously stated, instead of their racing hard, and doing good times, there was no pace until the final lap, when they raced in earnest, with the result that both did poor time.

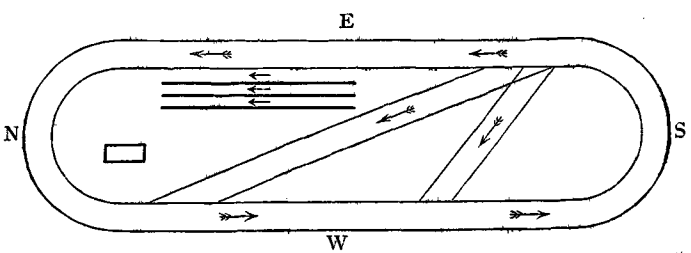
Upon Norseng's return to Hamar on the 29th, H. Lindahl beat him in a five-mile race; time given, 15 min. 16 sec. Another race, held on February 8 at Hamar, resulted as follows: one mile, G. A. Fjoestad (Swede), 2 min. 51⅕ sec.; O. Grunden (Swede), 2 min. 54 sec.; O. Jorkildsen (Norwegian), 3 min. 2 sec.; A. Norseng (Norwegian), 3 min. 5 sec. In the three-mile race, Grunden, 9 min. 3⅘ sec.; Fjoestad, 9 min. 7⅕ sec.; Norseng, 9 min. 13⅕ sec.

These times are most extraordinary, and if, as the 'Spirit of the Times' says, 'all details proved correct,' become far-away world records, and would place Scandinavian skaters at the top of the tree, with the Swedes on the highest twig. At Stockholm, on February 28, in the Swedish International races, O. Grunden won the 500-metre race in 50⅘ seconds, with Fjoestad only a ⅕th behind, and Norseng ⅗ths.

On March 1, E. Godager won the one-mile and 500-metre races. The ice was so soft as to prevent many competing.

This was the last race of the season, and brings speed-skating up to date; but while many points and positions of skaters are defined, many knotty points are still left undecided. The

world's representative amateurs are as follows : England, W. Loveday ; United States, J. F. Donoghue ; Holland, K. Pander ; Germany, F. Underborg ; Norway : A. Norseng or H. Lindahl ; Sweden, O. Grunden or J. A. Fjoestad ; Russia, Linsted or A. von Panschin ; Canada, F. D. Carroll ; with two promising youths, in the United States James A. Donoghue, and in Holland J. J. Eden. To analyse the positions, we find that Loveday has been beaten by Donoghue, Pander, and Von Panschin. Pander has succumbed to Donoghue and Grunden. Underborg has suffered defeat at the hands of Donoghue, Pander, Norseng, and Grunden. Linsted was beaten in the mile by Norseng ; whilst Norseng is this year second both to Grunden and Fjoestad. From this, and a



Plan of Racecourse at Heerenveen.

comparison of their times, it would appear that Underborg, F. D. Carroll, and Loveday are left to dispute for the last place, whilst J. F. Donoghue, Oscar Grunden, and Fjoestad would have to fight for the Amateur Championship of the World.

As to the professionals, to all appearances no skater intervenes between James Smart and Harald Hagen in their claim to be the world's professional champions, although the youthful Marten Kingma lies dangerously near on their heels.

It is also decided that the time test is the fairest system of racing, and that each competitor should have a separate track.

Accepted curves include a horseshoe ; two straight sides with large curved ends ; parallel courses with sharp turns ; or straight sides and ends with curved corners.

A few words in closing this chapter are due to our English champion, James Smart, for the way in which he has maintained the credit of English skating at home and abroad. In a cottage alongside the Old Bedford River at Welney, five miles from anywhere, he was born, in 1865, the last of a large family of boys. The skating traditions of the family and neighbourhood were so strong that one might almost have expected to find in him some abnormal physical development or peculiarity indicative of skating powers. Two of his brothers, the elder the well-known George 'Fish' Smart, the younger Jarman Smart, were the two best skaters in England, when James was fourteen years old. Their father, Charles Smart was, years before, a speedy skater, with one peculiar defect which prevented his ever winning races : he could never turn or stop, and was perforce obliged to run into anything there might be at the end of a course, sometimes ploughing into the bank or cutting into a snow ridge. The uncle of our champion is the father of Fen skaters, old William 'Turkey' Smart, whose power, and length and straightness of stroke, have never been equalled. Going back another generation, Jim's paternal great-grandfather, Robert Smart, was from all accounts a good man on his pattens, and early in this century won an important race at Cambridge.

Our champion's aunt on his father's side married old William 'Gutta Percha' See, who shared with old 'Turkey' for some years winning honours, and their two sons are the well-known George and Isaac See, the second and third best of contemporary skaters, and of course cousins to James, George, and Jarman. I veritably believe the whole group of Welney skaters might easily be shown to be nearly related ; but it suffices to know that our champion was born with a circulation loaded with skating tendencies.

As already mentioned, when a slim youth of sixteen he began racing, and was then beaten in the final of a boys' race by his

small compact cousin Isaac See. Unluckily, for the following six years racing was not possible, and the next appearance of Jim was at Swavesey on January 1887, as a powerful man. Here he showed such form that it was evident only George See was his superior. These two were, therefore, chosen to try and retrieve English honour in Holland, where they met and defeated Arie van den Berg and B. Kingma. These two Dutch skaters had just returned from racing against H. Hagen at Hamburg, and were so impressed with the Fenmen that they declared the Norwegian was no good beside them. The next winter the cousins again visited Holland, and with the same success over a two-mile course, only this time James defeated George See, as he did again on January 4, 1889, securing thereby the Championship. Since then our champion has never allowed a skater to lower his colours or approach him.

In the winter of 1890–91 he won the Championship of the Netherlands at Heerenveen, the greatest professional race ever held, and for the second time became English Champion, besides winning some eight or nine other races, all of which were skated under that searching system, the time test. The Swedish and Norwegian Skating Association have generously offered to pay all expenses if he will go over and compete in their races, so appreciative are they of his merits and anxious to gain the credit of defeating him. His record for one mile is only $\frac{4}{5}$ of a second longer than George See's world record of 2 min. 53 sec., whilst his times for one and a half mile (the championship course), 4 min. $52\frac{1}{5}$ sec., and ten miles, 36 min. 41 sec., have never been equalled by an Englishman.

At present his position as champion is as marked as ever George 'Fish' Smart's was, while for length and strength of stroke and endurance his brother never was his equal, although 'Fish' was a stronger-built man and had great powers of spurting. In appearance and conduct James Smart is a model champion. He is a fine handsome athlete, if anything rather spare for a Fenman, but stripping and weighing well. In height 5 ft. 10 ins., in weight some $11\frac{1}{2}$ stone.

By shooting wild fowl and fishing, and in summer-time doing navvy and harvest work, he keeps himself in splendid general health and athletic condition. Few homes can boast of a finer, handsomer, healthier family than that of James Smart, his wife and three chubby boys, and the aged father.

CHAPTER VIII

TRAINING

By C. G. Tebbutt

The uncertainty of our English climate has made, and will always make, training for ice sports very difficult. It is impossible to know a week beforehand when frost will set in and skating be possible. Thus the skater cannot make sure of securing the one essential of training—practice. Any time between November 15 and March 15 the weather may turn cold, and sharp frosts occur; within two or three days of umbrella or light-coat weather, the ponds and still waters may be covered with an inch of ice, and then in a very few days skating may become general. On the whole, only about once in ten years is it possible to obtain in England a fortnight's continuous practice; but as long as English skaters kept to their own shores and did not compete with foreigners, this difficulty affected all alike and favoured none. Also, as long as the Dutch did not train, although they can always depend upon getting more practice than the English, the Fenman, by his superior style for distance-skating, could more than hold his own against them. It was Axel Paulsen, the Norwegian figure and speed skater, who proved the great advantage of training. Taking advantage of the long Norwegian winter, he, in a month or so, got fit, came down south and won his races as he liked, ultimately crossing over to America to astonish the Americans on their own ice. Mr. Alexander von Panschin, in 1889, had made good use of his two months' skating in Russia, as on January 8 he won the half-mile and one mile at Amsterdam, though opposed by men

far superior to himself in style and physique. On the Hudson River, in the States, Mr. T. Donoghue appreciated the value of training, and was determined that his wonderful skating sons should not suffer for the want of it. From their earliest skating days he put them through a course of systematic training. On February 22, 1889, James Donoghue, the youngest son, had only missed two days' practice on the ice since the year opened, and probably he had some thirty days' skating before January 1; this would mean some eighty days' skating before he competed for the American championship, when he would, of course, be in the pink of condition. The idea of sending skaters abroad to colder climes than their own in order to secure for them the earliest skating originated with the Dutch Association. At the end of November, 1889, Mr. K. Pander and Marten Kingma went to St. Moritz, and the splendid performance of Mr. Pander afterwards at the International Races was doubtless the encouraging result. In 1890, by public support, the writer was able to send James Smart and George See also to St. Moritz, and although, unfortunately, they were only able to obtain six days' practice before having to return to compete in the International Race at Heerenveen, James Smart succeeded in winning the most important professional race ever skated for, everyone being struck by his improved form. In 1888 the trained skaters of Norway went to Stockholm and easily defeated the Swedes and Finns; after which the Swedes, taking a leaf out of the Norwegians' book, made better use of their splendid opportunities, and have during the last two years completely turned the tables, accomplishing times, moreover, which a few years before were considered impossible. Messrs. A. Norseng, J. T. Donoghue, and Von Panschin have each declared to the writer that it was madness to race without at least thirty days' practice; and in the winter of 1890-91 the Norwegians refused to race with Mr. Donoghue during December, because they did not consider themselves fit until January. The earliest instance of practice is perhaps that of the redoubtable William 'Gutta Percha' See, who some thirty-five years ago, during a

prolonged frost, used to get out of bed at 4 A.M., light his fire, put the kettle on, and have a spin down the Old Bedford in the dark 'just to ease his legs,' returning to find his breakfast ready, and then go to work; the result being that in a few days he was able greatly to surprise his opponents by his 'turn of speed.' Doubtless the agricultural work of our Fenmen puts them in hard condition, and affords a good general training, so that their muscles, wind, and staying power are in splendid order. But they still lack special training.

It was always said that William Smart's occupation of claying—that is, digging trenches on the fen-land down to the clay, which is beneficial to mix with the surface soil—accounts for the great power in his legs, thighs, and back. No doubt the work of a farm-labourer does put his frame into splendid order, although, if he works very hard, it has a tendency to destroy his elasticity. For skating, more than for any other sport, power and endurance as against quickness and litheness are necessary. Hence it is that ordinary amateurs have but little chance in England against those whose occupation is out-door and laborious. For the same reason it was considered that the Frieslander acquired his superiority as a skater in Holland by punting the barges along with a pole, which, as Baron de Salis said, 'expands the chest, hardens the muscles of the calves and ankles, and accounts for the superior skating powers of the Friesland boatman.'

Our Fenmen have plenty of stamina; what they require is the power of using their strength. They can never do themselves, or their Fen-style, full justice until they have been sent abroad and had real skating exercise for a month or two. The longest practice, if the ice can be kept clear of snow, may be obtained in Canada, where skating can often be enjoyed from October until the end of March.

I do not wish here to discuss or advocate any system of training as it relates to dieting, &c.: that has been well considered in the volume on 'Athletics.' But it might be well to warn enthusiasts that nature proceeds upon the principle.

If you wish to suffer, then suddenly alter your course of diet and exercise, as a certain enthusiastic Dutch amateur did. He announced to the writer that he was in training for the International races, and proceeded to detail his daily consumption besides his regular meals. It amounted to 'two pounds of beef-steak, eight eggs, and four cans of milk,' size of cans not specified. His bloated face told the tale, and it need hardly be added he did not distinguish himself in the races. The best indications of a man being in good condition are a good appetite, a healthy appearance, sound sleep, enjoyment of exercise, good spirits, and ability to recover rapidly after exertion.

It may be useful just to refer to those exercises which develop skating muscles. Of these, rinking undoubtedly comes first. It resembles real skating, and may indeed be considered a sort of half-brother to it. But that it is not own brother was seen at Lingey Fen in the International Amateur Race, where the efforts of Mr. Tennant, a splendid rinker, and in first-rate condition, were of no avail. Rinking will strengthen the power of the ankles, legs and thighs for the lateral or outward pressure so necessary in striking, and it also brings into use those muscles of the back which support the body when under this exertion. The bent position of the knees and back are again the same in speed-rinking as in skating; but rinking is apt to affect the stroke of the skater. It will not give him that precision and command over his stroke which are so characteristic of such trained skaters as Messrs. Donoghue and Norseng, whose strokes are the exact reproduction of one another. But, as a makeshift, rinking is very good, and doubtless the success of Mr. Joseph Donoghue as a rinker, which may be seen from his medal list, has been a great help to him in skating. In winter-time, should a thaw set in, he keeps himself in condition by rinking for an hour or so each day. It was for this reason that the writer arranged in 1890 for James Smart and George See to have two months' rinking during the summer at Olympia. Their wonderful success during so short a time, without having previously had a rink-skate on, shows the near relationship of

the two sports. In New York a 'Fresh-air Club' exists whose members are enthusiastic skaters. They consider that mountain and hill climbing is a good preliminary practice for skating, and, if we may judge by the pounds of superfluous flesh some of the members leave behind on the mountain slopes, it doubtless is. A tramp over hill-sides, ascending and descending, &c., must strengthen the ankles and develop many of the skating muscles. In 1889 Messrs. Joseph Donoghue and K. Pander might have been seen, when the ice did not bear, daily for hours toiling up a toboggan slide near the ice rink, and a tramp along a bank or dyke half-way up its steep sides and back again would be a good thing to make the ankles and legs ready for the outside and inside edge. By some, riding is considered a good exercise, the pressure and bent position of the knees and the strain on the loins and back being all in the right direction. Other means have been proposed, some ingenious, some effective perhaps, and some crude. Enthusiasts have endeavoured to invent exercising machines on which to grind their muscles into condition. Others have trampled a grass field, or cut up a Turkey carpet with skates on their feet, so as to get used to them, and no doubt an imaginative reader may invent for himself some other curious, if not effective, dodges. But there is only one royal road to success, and that is practising on the genuine article—ice.

Considering the speed of skating, it is wonderful how long a man with a good style can hold his own. Until he is forty years of age such a man is as good as a younger skater. After that he may fairly consider his racing days over, although Alfred Hawes, who had then passed his forty-second winter skated so well in the winter of 1890–91 as to be reckoned among the first dozen Fenmen. But an upright skater, who depends principally upon his activity, is seldom much good after he is thirty years old. Short, scratchy, active men like the Sees begin racing early, when seventeen or eighteen. But those with long powerful strokes like James Smart are not at their best until they are twenty-two or twenty-three. Old

'Turkey' Smart always tells his sons that they will not do much until twenty-three or twenty-four years old.

Starting.—Excepting for short-distance racing, little advantage arises from a jump-off start. The object of every skater, when the race is over half a mile, should rather be to get as rapidly as possible into a full stroke.

A jump-off start is very fatiguing, and another disadvantage in getting off quickly in skating is the slipperiness of the ice and the difficulty of obtaining a foothold. In springing off a skater is very likely to slip about, and may strain himself or lose his balance.

Once in full swing, the impetus of his body helps him to get a firm stroke against the ice, as will be explained in the next chapter, on Style. Some skaters regard the first shove off as of the highest importance, and make a violent effort with one foot, only to find they go so short a distance that the shoving leg has not time to recover, be brought back and dashed down, so as to allow the other leg to act as a propeller.

The Dutch are the best starters, as they do not trust too much to the forward impetus to get a hold on the ice, but strike violently backwards at the end of the stroke. It is wonderful to see them dash off in their 175 yards races.

Mr. G. D. Phillips, of the United States, in his one-eighth and one-quarter mile sprints, made a hole in the ice to act as a scotch for the toe of his right-foot skate in his spring forward. But the Dutch and Mr. Phillips are not distance-skaters.

The writer thinks it is the second, third, or even fourth stroke which should be thought most about in starting, the first being more or less preparatory. The object should be to get into a full swinging stroke with as little effort and as quickly as possible. The first shove off with, say, the left foot should be merely to make the right foot effective in striking. It must not be allowed to get extended behind, but be at once picked up and dashed down in the right direction.

It should be remembered that the right foot can do but little striking or propelling until the left foot has been placed on

the ice and has begun to support the body. As the first shove off will be only while the weight is on the left foot and is but a mild affair, there need be no occasion for digging or scratching the ice for a scotch, and little danger of slipping and falling.

Some dig a hole in the ice for the heel of the blade, but seem to forget that the striking is done by the flat or toe of the blade, and the heel is out of the hole at the critical moment. Other skaters attempt to jump off like a Sheffield sprinter, but as they are neither on turf nor wearing spikes they defeat their own object. The leisurely way in which the Fenmen get off strikes most on-lookers for the first time, and doubtless annoys a skater who has gained a few yards by an energetic start only to find himself rapidly overhauled by his apparently phlegmatic opponent. Doubtless Fenmen have carried this peculiarity to an extreme, which the importance of wasting no time under the time test will soon alter, but their unfitness for violent movements provides them with a good excuse for the adoption of their method.

A yard or so may be gained at the start by practice and adroitness, and it may very likely be that at the finish this will prove invaluable. The writer has five or six times won and lost races by less than a yard. Those who watched Mr. Donoghue get off in the half-mile at Amsterdam in the winter of 1890–91 saw the advantage of carefully practising starts; he felt that the half-mile was his worst distance, and took the more pains to get off well.

Turning.—The step over step action with which Mr. A. von Panschin went round the curved end of the Amsterdam course revealed to the Dutch and English the importance of learning this movement. Viewed from the inside of the curve, it looked just like running.

By a little practice it is easy to thus rush round a small curve with but little loss of speed, and to regulate the strokes to the size of the curve. In skating to the left round a curve, the body is leaned to the inside. Instead of bringing the right skate alongside the left, it is carried over and in front of

the left, and, if the curve is small, is put down to the inside of the left skate. Care is necessary, if skating with prolonged heels, not to clash with the toe of the hind skate. The left skate then strikes with the outside edge, and is brought forward to the left of the right skate. By regulating the number of strokes when the right skate is brought to the front and to the left of the left skate, and the direction of the skate when placed on the ice, it is possible to manage any sized curve with precision and safety at great speed. Hugh McCormick is the most wonderful skater round a small rink in the world.

It is very necessary to learn how to go round curves, as most courses abroad have curved ends. As a rule, Fen skaters are very bad turners, and when rounding a curve look as awkward as rooks hopping with the wind as a preliminary to flying. On the parallel Fen course it is best when approaching the turn to keep well to the outside of the course; this will allow as big a curve as possible. Slacken speed if possible by placing both blades at right angles to the course, and pointing towards the turn. Then, with one or two foot-over-foot strokes, go round. With a little practice and judgment it will be found easy, as Mr. Donoghue has shown it is, to get round rapidly without stopping. Abroad, courses are mostly skated to the left (against the sun and clock), but it is useful to be able to round curves either way.

As a rule it pays best to race hard all the way, without any bursts of speed when the distance is over a mile. I have seen many brilliant dashes at the beginning die away, and before the finish the skater crawl in last in an exhausted state. I have also seen a plodder start off as if he were on a week's journey, and when he woke up for an effort find himself too far in the rear, though quite fresh.

For a half-mile or less, throw all hesitation to the wind and skate 'like a hare'; keep your balance and stroke, but strike quickly and with energy. A mere scramble may do for 100 yards, or in playing bandy, but not for a quarter-mile race. For a mile, expend some energy in starting, fall into a

full stroke, and do not spare yourself. Over a mile and a half or two miles course, the start and finish become of less importance; the main object is to maintain a stroke which your condition will allow from pillar to post, and put all your strength into each stroke. Some skaters, like Mr. Pander, begin to tail off almost from the start, others, like William Smart, seem to increase in pace to the finish. The former are useless for long distances, the latter for short distances.

It is very necessary for the skater to be warmly clad; if anything, more warmly than a football-player. One seldom, if it is cold, perspires while racing, but often the hands and arms become white with cold. At the same time nothing should interfere with the movement of the limbs. They require great freedom, as they are thrown in skating into extreme positions. The loose Dutch blue or grey knickerbocker flannels, with shirt and stockings to match, are extremely suitable. But the most popular suits, as worn by such prominent skaters as Messrs. Donoghue, Norsing, Panschin, Godager, &c., consist of a woollen stocking-net trousers and jersey fitting close to the figure. These stocking-net costumes are very easy and warm, but do not look as well as the loose Dutch flannel suits. They remind one too much of a circus. If a jersey is worn, it should come well up to the neck like a Rugby jersey, and well down the figure, covering the thighs and protecting the wearer from the bitterly searching icy wind. A thick woollen cap to match should be made so that it can be well drawn over the ears, as their protection at times is absolutely necessary. The hands are specially liable to suffer from the cold, and should be well protected with warm gloves. Those who, unlike the English or Dutch, do not swing their arms, complain bitterly of benumbed frozen fingers. So intensely cold is the wind at times, when the skater is travelling, say, twenty miles an hour, that it is impossible for the face even to endure it. At Heerenveen Mr. Donoghue drew his cap well over his ears and head, his jersey came right up to his throat, but still he begged of the writer a handkerchief to tie round his throat, and skated face

downwards. Mr. Alexander von Panschin always had a handkerchief in his teeth to prevent the direct current of keen air rushing down his throat. In Russia he had to skate sometimes when the temperature was below zero. Doubtless, also, besides making him breathe through his nose, he found, from his peculiarly determined way of setting his teeth, that a handkerchief made a useful pad. Thick socks or stockings should protect the feet from the pressure of straps, or, where the skate is part of the boot, from the laces. It is a good plan to have boots a trifle large, and wear an extra woollen sock under the hose. By this means a thinner and tighter fitting upper can be worn. Should the feet be tender, a wash-leather sock may be necessary. As the ankles require freedom of movement, and it is necessary for the boots to fit tightly, the tops should be soft and pliable. The back of the heel is especially liable to chafe and get sore, and then a free use of vaseline becomes necessary until the skin is hardened. The method of treating and avoiding blisters will be found in the article on 'Training,' in the volume on 'Athletics' already referred to.

Never forget to change your clothes after racing, and, if possible, between the races, and by rubbing down, &c., to work off any stiffness, and to keep quite warm. Avoid a heavy meal less than an hour or so before a race, and do not copy 'Knocker' Carter, who, within ten minutes of his final race at Cambridge, consumed a beef-steak, a big hunch of bread, two pints of beer, and a 'swig' of whiskey. He won; but not improbably this was because his opponent broke his skate.

I must again impress on all those who wish to secure international honours the importance of training. One cannot now-a-days roll out of bed and win a race. If an amateur wishes to excel, and has the two requisites of good physique and Fen style, he may, by getting into good hard condition in the summer, and taking the first opportunity during, say, November, to go to the Engadine or Norway for a month's practice, be able agreeably to surprise himself, if not to win the highest honours.

CHAPTER IX

STYLE IN SKATING

By C. G. Tebbutt

An exhaustive treatise on the theory of skating, or even a satisfactory inquiry into the relative value of different styles, is out of the question in a short chapter. I propose to give such information as I have been able to collect, which bears on this subject, and which will supply data to enable those who are interested to elaborate theories for themselves.

Skating involves the use of almost every muscle in the body, and the most careful control of those muscles for propulsion, balance, and guidance; and only when they all work in harmony, and under skilful control, can the best results as to speed be attained.

Favoured by the prolonged frost of the winter of 1890–91, I was able to get a fairly good collection of facts, and as everything depends upon the trustworthiness of these data, it may be well to explain the method I adopted.

At Heerenveen, on the great racecourse, a slight fall of snow had whitewashed the surface of the ice, and, choosing a suitable part, Mr. Donoghue, at my request, skated at racing speed across it, leaving his stroke marks clearly cut in the snow. With a cord about a chain (twenty-two yards) long, a line was marked in the snow showing the direction of the skater, the stroke marks diverging from it to the right and left. This centre line in the diagram of strokes is shown as an elongated arrow. Spacing this centre line out by a mark in

the snow every twelve inches, I noted down the distance of the stroke to the right or left of the centre line at each mark. Subsequently Klass Hanje, the champion Fries short-distance skater, left his stroke marks on the snow for me, and these were also reduced to figures. The same process was applied to my own strokes when I returned to England. From these measurements the stroke-mark diagrams were prepared. A certain amount of detail is lost in the reduction to so small a scale; but nothing very material is wanting—nothing, indeed, but mere peculiarities of each stroke, due to imperfections of ice, or other such causes, reproduction of which might be misleading. It is a typical stroke that is wanted, and these are typical as well as actual strokes. Two strokes are never precisely alike; for the effect of bluntness of skates, state of ice, direction and force of wind, pace, or condition of skater, considerably affect the stroke mark. I have, however, been unable to give the depth of cut in the ice along the stroke-mark, and this is of some importance as showing where the greatest force was used.

The next information obtained was by watching skaters racing, counting the number of strokes they made per minute, and then, given the time for the whole course, the distance the skater travelled at each stroke is easily worked out. This was for the first time taken by me when Mr. Donoghue won the mile championship at Heerenveen, and since then has fortunately been calculated in subsequent races.

But the most important basis for theory is the series of instantaneous photographs which I was happily able to obtain at Amsterdam. A partially successful series had previously been taken of both K. Pander and J. Jurrjens, preparing the way for the first entirely successful and beautiful series which Messrs. Loman & Co. of Amsterdam photographed from Messrs. Donoghue, Underborg, and myself, when skating. The Management of the Amsterdam Skating Association kindly allowed me the use of a part of their rink; a bright sun was shining, a large white sheet formed a background, and the figures came out clearly and well defined, without one

failure. Arrangements were made to send James Smart to Amsterdam to be photographed, but to my great regret the frost did not last long enough.

The series of Mr. Donoghue and myself are reproduced here exactly as photographed, except that they are enlarged. This collection, especially as it contains the photographs of such a fine skater as Mr. Donoghue, is the most valuable contribution ever made to the facts needed to construct a true theory of skating. Hundreds of solitary instantaneous photographs will not supply the same information as a series.

A number of cameras about a yard apart were placed in a row pointing towards a narrow course, and as the skater passed, he cut one after another the silk threads stretched across. When cut, each thread released a button and set up an electric current connected with each of the cameras, which dropped a shutter and photographed the skater.

Three styles of skating will be described—the Dutch, English, and Modern racing, these being the most distinctive.

DUTCH STYLE

The skaters of Holland are divided into two classes—the Friesland and South Holland. The style of the latter is best known to us as the 'Dutch roll.' On slightly curved blades the South Hollander avoids the necessity of keeping to a straight course, and in easy and graceful curves swings from side to side, riding on the outside edge, his body very much inclined from the perpendicular. He seems to put off striking as long as it is possible to enjoy the roll, then at last makes a short quick strike back, throwing himself on the outside edge of the other skate.

This style, whatever its merits, does not help us much to find out the best method for speed. It is the short-distance skater of Friesland who here concerns us most, for in his 160-metre (175 yards) races he has no equal. Other Dutchmen,

such as Kingma and Pander, excel in long-distance races, but that is because they have left their first love and partially adopted the modern racing style. They are not as typical of a distinctive style as Klass Hanje or B. Dekker, who skate in a way that perhaps dates back one or two centuries, when also skates similar to those they now use were invented.

ENGLISH STYLE

English, or Fen, style is confined to the Fen district, and its distinctiveness is shown by the fact that in England no one outside the Fens can equal a Fenman for speed. Though skating was introduced from Holland, a distinct way of skating suitable for long-distance races was soon developed, probably owing to the conscious as well as unconscious imitation of the gait of successful skaters when skating in single file behind a crack performer, a practice very general in the Fens. This gait has resulted in what is known as Fen style. Its best exponent was undoubtedly old 'Turkey' (William) Smart, who showed how it was possible to use his powerful frame to the best advantage, and achieved wonderful results, both in speed and length of stroke. His style may be considered the finest possible for the objects to which it was directed, his influence on skating was marked and good, and although no one since has quite caught his mantle, in our present champion, James Smart, we see much of his uncle's form. A few successful skaters whose attitude in skating is more upright and with a shorter stroke, Larmen Register and even the late champion George ('Fish') Smart among them, have somewhat modified the Fen style.

I had hoped to give drawings showing James Smart's style, but regret to say I cannot do so; I have therefore been forced to substitute particulars of my own. I believe, however, and have been told, that my style is as near old 'Turkey's' as any Fenman's, although of course I have no pretensions to his pace.

MODERN RACING STYLE

Those countries which cannot be considered to have inherited a distinctive style—Norway, Sweden, the United States, Canada, Germany, &c.—have been working out and adopting a method of progression which is the outcome of the effect of racing, and of racing only. To Axel Paulsen, the Norwegian, belongs most of the credit for this. His success in Europe and America did much to bring about its adoption, and we are told that the boys in New York, after his victories there, all imitated him as well as they knew how.

Norway and Sweden may be considered the headquarters of this style, and the skates which are essential to it are made at Christiania, although it must be added that Mr. Donoghue, of the United States, is certainly one of its finest exponents, if indeed he has any superior. The marked feature of the skates in question is their prolonged heel. Several persons claim the credit of introducing this. Mr. J. A. Whelpley says that thirty-two years ago (1859) he conceived the idea, and called his skates the 'Long Reach,' after the name of a fourteen-mile straight stretch of the River St. John ; and since then they have been adopted in the neighbourhood and introduced on the Hudson River. Some credit is due to him, but he was not the first inventor, for a pair of skates with a heel prolonged two inches behind were made by Mr. Berney in 1855 for Larmen Register, though Larmen clipped the heels short and nipped the idea in the bud.

Skating is not running on the ice, as beginners find to their sorrow, nor, indeed, anything at all like it. This is obvious when we notice how slow are a skater's movements, even when going very fast, in comparison with those of a runner.

In running, progress is made by a series of bounds forward, each started by the backward pressure of the foot at the moment when it is stationary on the ground. With skates and on slippery ice progress thus is impossible. Again, in running, the body is

unsupported during most of the time, and when the foot does come to the ground the body has considerably fallen and acquired a falling impetus; in the next bound exertion is required in order to raise the body again sufficiently to allow of a forward impetus. It is gravity which roots us to the earth.

In skating we cannot quite avoid all the exertion of overcoming this falling impetus; for it is necessary for the body to fall slightly to allow of the full extension and reach of the limbs; but we have always one foot on the ice, and during about half the time two, to sustain the weight. The body falls, it is true, but always under control. Second to this important act of counteracting gravity comes the more pleasurable one of progress. In this the friction of the skate against the ice and the resistance of the air must be overcome. Ice fortunately lends itself in a peculiarly favourable way to rapid motion, for though extremely slippery a good scotch or foothold is possible.

To obtain motion the foot or skate may be said to act in three successive functions: as a rudder, as a glider, and as a striker.

Before going further, I wish to make a few explanatory remarks about the diagrams, &c.

The word 'strike' is used to imply that part of the stroke during which the leg propels the body forward—in fact, the end of the stroke.

By referring to the diagram of stroke marks, the following example will explain the use of letters and figures. D 1 R indicates the 1 foot pad of the Right foot of Mr. Donoghue's stroke. The numbers of these foot pads mark the position of the corresponding number in the instantaneous series, and readers are advised, when reading the description, to refer to both figures and diagram.

Vertical lines are one yard apart, making it easy to measure the length of any part of the stroke. The horizontal lines are one foot apart, showing the amount of deflection of any part of the stroke to the right or left of the centre or arrow line.

Small arrows show the direction in which the camera was pointed when one particular view, viz. No. 4 in both series, was taken.

MR. JOSEPH F. DONOGHUE

(*After an instantaneous photograph*)

Position No. 1—front view

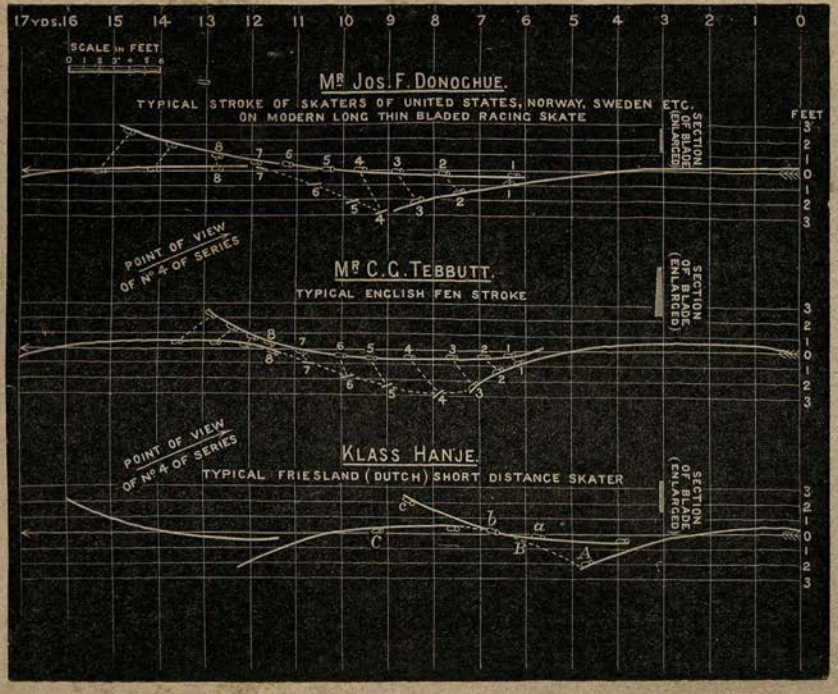
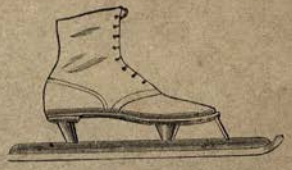

17 YDS. 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0
SCALE IN FEET
0 1 2 3 4 5 6
Mr JOS. F. DONOGHUE.
TYPICAL STROKE OF SKATERS OF UNITED STATES, NORWAY, SWEDEN ETC. ON MODERN LONG THIN BLADED RACING SKATE
SECTION OF BLADE (ENLARGED)
FEET
3 2 1 0 1 2 3
POINT OF VIEW OF Nº 4 OF SERIES
Mr C. C. TEBBUTT.
TYPICAL ENGLISH FEN STROKE
SECTION OF BLADE (ENLARGED)
3 2 1 0 1 2 3
POINT OF VIEW OF Nº 4 OF SERIES
KLASS HANJE.
TYPICAL FRIESLAND (DUTCH) SHORT DISTANCE SKATER
SECTION OF BLADE (ENLARGED)
3 2 1 0 1 2 3

Diagram of Skate Strokes, &c. (showing Dutch, English, and Modern Racing Style).



Norwegian Skate.

English Fen Skate.

Friesland Skate.

Opposite each of these stroke marks is shown the skate used in making it, $\frac{1}{15}$ actual size. The sections of blades are $\frac{1}{4}$ actual size. The blades of Mr. Donoghue's and my skates are ground square and flat, but Hanje's are ground at an angle so as to leave the inside edge decidedly acute and the outside edge obtuse.

The little foot pads are on the right or left or on the stroke, and show whether the skate is on its outside or inside edge or on the flat. Thus at D 3 L the skate is on the inside edge, at D 4 R on the outside, and at D 5 R on the flat. The right and left is to the right hand or left hand of a person looking in the direction the arrow centre lines point.

Where the foot after striking has left the ice, its progress is shown by dotted lines, and its position above the ice given by short marks and numbers.

To analyse the series of attitudes, draw two horizontal parallel lines, the one cutting the centre of the right foot skate blade where it touches the ice, and the other just touching the highest part of the shoulders or back. From these the rise and fall of the body may be measured. I find that Mr. Donoghue is at his highest point in No. 2 and No. 6, and lowest at No. 4 and No. 8, there being a difference of some ten inches.

Now take the diagram of strokes as well as the figures in the series, and go through Mr. Donoghue's strokes, beginning at No. 1.

Here the right foot is just taking the weight, and, in order to act as a rudder and resist the strike of the left foot, is upon the outside edge. Rapidly advancing and with increasing speed it overtakes the left foot, receiving more and more the weight of the body, until passing by Nos. 2 and 3, it has the whole weight at No. 4. During this time the left foot has been striking and its pace diminishing, until a little beyond No. 3 it is stationary, and the next moment flies backwards and upwards off the ice as at No. 4.

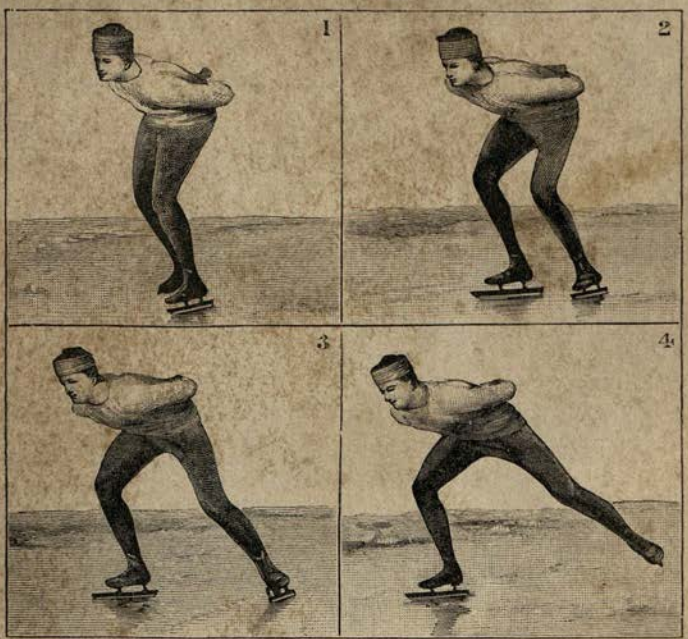
Before arriving at No. 1 the left foot was striking, for almost as soon as the stroke crossed the centre line and diverged

to the left, a backward pressure was possible. The power of striking backward increases more and more as the foot is more and more in the rear; at the end of the strike the heel is raised and the toe gives a final push, cutting deep into the ice with the fullest stretch of the leg. With this final push what little weight the left leg carried is thrown forward over the right foot. Beginning from the cramped position of Nos. 1 and 2 the whole limb from the loin to the ankle is extended to its full length, and the body lowered and from the shoulder downward twisted towards the striking leg, to give it the greatest reach and the fullest freedom. When the right leg first receives the weight upon being placed on the ice, it raises the body to one of its highest positions at No. 2, and then allows it to fall again during the stroke. As the body falls, the right knee becomes more and more bent, and is bent most when the full weight is received at No. 4, the centre of gravity being here at its lowest. Continuing with the right leg, this has now lost its rudder function, which function, it may be remarked, involved considerable amount of exertion to overcome the lateral pressure of the left tending to drive the skate away to the right. At Nos. 5 and 6 it acts as glider and supporter, or rather raiser of the body, for at No. 6 the body has been raised 10 inches from No. 4. There is now no need to be on the outside edge, so in order to glide more easily it is turned on the flat.

The left leg has now its rest, and is merely returning ready to take up the running at the proper moment, and to be placed on the ice in the best position for the next stroke. In doing this Mr. Donoghue raises his heels high in the air behind him, twisting the skate so as to bring the toe again inwards; and indeed this is the common practice with all who use the long-toed skates. I suppose it is no extra exertion to raise the heel up high, and in their anxiety to be clear of the ice skaters exceed what is necessary. From an æsthetic point of view it does not add to the otherwise extremely graceful movement of Mr. Donoghue. Returning to the right foot, before it arrives at No. 7 it has turned on to the inside edge

and is ready to strike, the body is falling fast, and will continue to fall until at No. 8 the left leg has taken the weight.

The importance of putting the skate of the left foot down in the exact position at No. 8 arises from the fact that the skates are so long and so flat that it is extremely difficult when any

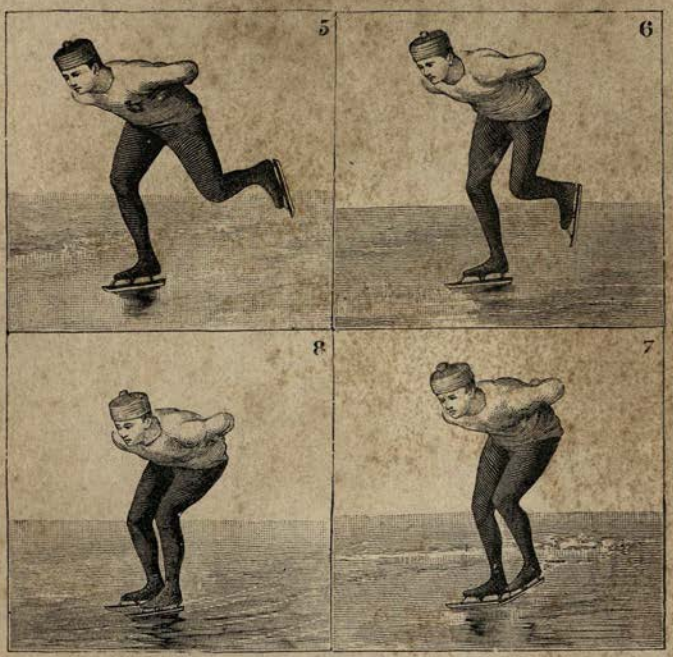


Modern Racing Style (about $\frac{1}{10}$ actual size).

Instantaneous series taken of Mr. Joseph F. Donoghue.

weight is upon them to alter their direction. The whole stroke has for this reason to begin on the side of the centre line opposite that of the Fen stroke, because it would otherwise be thrown at the finish too far from this line. It is impossible to make the curves as shown in the Fen stroke upon thin, flat, 18-inch blades. This completes one-half of Mr. Donoghue's

movements ; the other half is but a repetition with the legs reversed. It ought to be mentioned that the strokes shown in the diagram are not those that Mr. Donoghue skated when he was photographed, and some allowance must therefore be made should the strokes and attitudes not exactly coincide. In



Modern Racing Style (about $\frac{1}{10}$ actual size).

comparing Mr. Donoghue's series with those representing the Fen series, it will be found that the movements in the main are much the same. The Fen strike is shorter, and at its finish the heel leaves the ice at nearly the same time as the toe, the heel of the striking skate being at that moment more nearly at a right angle to the centre line. After striking, the foot is not

lifted in the air heel uppermost, but returned with the sole almost parallel to the ice, the toe being gradually turned inwards.

Another difference very noticeable is that the arms are

English Fen Style ($\frac{1}{25}$ actual size).
Instantaneous series taken of Mr. C. G. Tebbutt.

freely used in Fen-skating instead of being clasped behind the back. Axel Paulsen is principally responsible for this fashion of locking the hands behind the back. The arms have a func-

tion, and if they assist in attaining the object in view ever so little they should be used.

The great object in the Fen style of skating is never to

English Fen Style ($\frac{1}{25}$ actual size).

allow the body to leave the centre line, and as the legs strike out to the right or left the arms are thrown in an opposite direction to balance. The result is that a Fenman like James

Smart skates straighter than Mr. Donoghue, and rides less over his striking leg.

The rise and fall of the body is not so great, it being in my own case about five inches, although this difference may be to a large extent accounted for by the extra height and length of limb of Mr. Donoghue.

Hanje's stroke at once attracts notice as being short, and not suitable for a distance-skater. The object of the Fries is to rush a short distance over the ice at terrific speed, and all prolonged movements and small economies must be avoided. His must be a dashing stroke. Now it is obvious that the most effective strike for onward progress must be backward, only the striking leg must be travelling backwards faster than the onward progress. This exertion the Fries is prepared for and can maintain for 175 yards; beyond a quarter of a mile the falling off in speed is extraordinary. In considering Klass Hanje's stroke it must be remembered that he completes four strokes before Mr. Donoghue has made two: the strokes in fact become almost a series of forward bounds. After the right leg at the beginning of the second stroke in the diagram was dashed down behind the left, it was shot in front, and at *a* began to receive the impetus from the strike of the left skate at A. In a similar part of the stroke Mr. Donoghue or a Fenman would have been resting his whole weight on the right skate and the left would have been extended from the body. Not so here. The body has followed the direction of the left leg, and this leg is bent or crouched beneath it, ready to spring forward when it reaches A. With weight over it, and the inside edge of the skate ground to an acute angle cutting the ice like a knife, there is no fear of not getting a good 'scotch' for the strike. Directly the spring forward or cut backward is given, the right leg will have reached *b*, and it will be seen that the course it takes from *b* to *c* is in a direct line with the strike, the left leg after striking leaving the ice directly behind the skater. To allow of the cut back, which is given from the heel to the toe, the ankle must have free play; no boots are worn and the

attachments of the skates leave the ankle unhampered. As the toe is the last to leave the ice the heels are kicked up behind—one of the most noticeable features of Dutch skating. The strokes never diverge far from the centre line, but cross and recross it so rapidly that the skater seems to be going very straight. As a proof how well suited the Fries style is to short races, even small boys can outpace any foreigner for a few yards.

We will now consider the length of strokes and rapidity of striking. Old 'Turkey' Smart had probably the most powerful and effective stroke of any known skater, and from measurement taken when he was racing in 1854, his strokes must have averaged from thirteen to fifteen yards. On one occasion, when skating at Huntingdon with the wind, his strokes were measured and found to be eighteen yards. He told me that once on Whittlesea Mere the course was purposely marked out by lumps of snow into chain (twenty-two yards) lengths. Skating for a wager he beat his opponent, and the last time down each stroke corresponded with the chain measure. 'You can easily make a long stroke by dwelling on it,' Smart added. What length of stroke is most effective and necessary to win races is the thing to be ascertained. James Smart usually takes about ten-yard strokes.

The diagram shows us that strokes considerably overlap. Mr. Donoghue's do this to something like three yards, mine about five feet, Hanje's about one yard. The true length of a stride is from the beginning of one stroke to the beginning of the next, as that is the distance traversed from each strike. This makes Mr. Donoghue's stride six yards, mine five yards two feet, and Hanje's nearly four yards.

At Heerenveen, in the mile race, Mr. Donoghue took 86 strokes against wind, and 80 with, or an average of 83 per minute, covering about six yards two feet each stroke. Hanje in the quarter-mile dashed off 158 strides of three yards one foot. What a difference! At Amsterdam, when Mr. Donoghue won the Championship of the World in the half-mile, he made

120 five-yard strides in the minute; that is to say, he went ten yards per second. In the five-mile race he maintained an

5

6

English Fen Style ($\frac{1}{25}$ actual size).

almost uniform 84 strides per minute of six yards one and a half feet, when he made the record time of 16 min. $2\frac{4}{5}$ secs. The

second man, K. Pander, made 132 strides of four yards one foot, but had he been able with this length of stride to equal

7

8

English Fen Style ($\frac{1}{25}$ actual size).

Mr. Donoghue, he must have dashed off 150 strokes to the minute, an impossible exertion to maintain for a mile.

At Hamburg, in the mile race, the Norwegian, A. Norseng, maintained 100 strides of five yards two and a half feet, com-

pleting the mile in the splendid time of 2 min. 59⅗ secs., and the Swede, O. Grunden, struck 106 strides of five yards one and a half feet. No one, unless in grand form, could have kept up such high pressure, combining rapidity with length of stroke.

At Groningen, also in a mile race, the best Dutch amateurs competing, the winners were K. Pander, who took 98 strides of five yards two feet; J. J. Eden, 106 strides of five yards; Van Dissel, 88 of six yards; and De Koe, with big strokes of 76 strides of seven yards. The advantage went to the shorter strokes and extra rapidity of striking.

K. Pander (Holland).
(*From instantaneous photograph.*)

From these and other statistics, it seems that the maximum speed of striking is about 160 per minute, and that 60 strokes is an old gentleman's pace; that it is almost impossible to maintain 120 strokes for a mile, or over 90 for five miles; that in order to skate a mile in three minutes a man must cover five yards each stride, and that six yards is the best length.

A great deal of interest is now felt in the question as to which style is the best suited for racing. As evidently the Fries

or Dutch style is only fit for distances under half a mile, the answer really lies between the style of Mr. Donoghue and that of James Smart. In important points both methods are alike, and except for the swing of the arms, the differences are due to the length of the blade of the skate. This length of blade is supposed to be essential for a grip upon hard, flinty ice, ice that is frozen at a very low temperature. If it is—and it is also necessary to have most of this extra length in front of the toe—then the modern racing style in all particulars, except perhaps the swing of the arms, is best on such ice; for it is impossible to skate like a Fenman upon long-toed skates. If, on the other hand, by using a thinner blade and perhaps lengthening the blade behind the heel, it is possible to get all the hold necessary, then I fail to see why any Fenman need think of changing his style. James Smart has, I believe, demonstrated by his marked success on smooth hard ice in Holland, and, what is more, by his splendid times, that it is not better style, but better training, which handicaps a Fenman in racing a foreigner.

The long Norwegian skates are obviously unfit for the rougher and softer ice usual to a Fen course. Mr. Donoghue was fortunate in skating in England during the winter of 1890–91 on the best and hardest ice I have ever seen in the Fens.

One decided advantage of Mr. Donoghue's style is that he can begin to strike so much sooner than Smart does. In the front view illustration of Mr. Donoghue he is seen striking with the left leg, and this position corresponds nearly with No. 1. It is this early propulsion forward which explains the mystery of his great pace; but at the finish of the strike, when it is most effective, the Fenman, I believe, puts in more work and to better advantage. And the last point in favour of Fen style is that the stroke in the gliding part follows more nearly the direction of the centre line, and the skater keeps a straighter course.

In conclusion, I beg to acknowledge the help I have received from the following:—Dr. Roger Goodman, for the loan of the late Mr. Neville Goodman's extracts and notes; Mr.

W. B. Curtis, New York ; Mr. Albert Goodman, London ; the late Mr. J. van B. Wichers, Leiden ; the late Baron de Salis, Amsterdam ; Mr. Adolf Norseng, Norway ; the Management of the Dutch Skating Association ; and the Management of the Amsterdam Ice Club. My only regret is that, in the space at my command, I have been able to use such a comparatively small portion of the valuable and interesting information so kindly put at my disposal.

CURLING

BY

REV. J. KERR

CURLING

By Rev. John Kerr

INTRODUCTORY

The game of curling would be very imperfectly presented to 'Badminton' readers if we simply treated it in its practical or scientific aspects. Scientific it certainly is, affording scope for a display of practical acumen such as few games demand. This will readily be granted when it is remembered that the player's implement of play is a stone weighing on an average about 38 lb., the field a sheet of ice keen or dull as the weather makes it, the object aimed at lying nearly 40 yards away. Tradition tells of a certain Tam Pate who flourished as a curler in the end of last century, and who never missed a single shot; but with ordinary curlers the misses are generally half as numerous as the hits, and in an emergency the most trusty veteran has been known to fail at the slippery game, so that this extraordinary son of tradition is always supposed to have been a *warlock*. No mortal man can curl to perfection. But difficult and intricate as the game undoubtedly is, the beginner may soon acquire sufficient knowledge to enable him to take a respectable place in a rink. As in many other cases, a little practical instruction does more than a great amount of book-reading. Curling may therefore lay claim to simplicity as well as to scientific skill. No man should be deterred from

it by the fear that it is too difficult a game to learn. But neither science nor simplicity constitutes the charm of curling. This is mainly ethical. A few words on the character, tone, and associations of this popular ice-sport may therefore serve as an introduction to this chapter. To begin with, the sport excites the utmost enthusiasm among its votaries. At a season of the year when nature is passing through her dull interlude, and the blood circulates sluggishly, such a sport strengthens the body and cheers the mind. It has, too, most unquestionably, physical advantages to recommend it. No sybarite can be a curler. The game demands activity, hardihood, endurance, and such ardour as makes a man forget everything in his intense devotion to the sport; and in return it imparts health and happiness to its followers. The proverbial keenness of the curler is a phase of this enthusiasm. Like the skater, he knows that a day or an hour may bring a thaw, and woe betide him if he miss his opportunity or fail to make the most of the uncertain season. Given keen ice, keen air, and keen curlers—as all curlers are—and you have the conditions under which the sport is perfect and the best results to mind and body therefrom obtainable. 'Everyone,' said Lord Dufferin in opening the Toronto Rink in 1877, 'everyone who had attempted to play a stone, no matter what may be his occupation, whether politics or business, generally felt all his cares and anxieties disappear, and thought of nothing else but defeating his opponents.' That is surely no small advantage. Another excellent feature in connection with curling is that, like cricket, the game is rarely made the subject of betting. It may be said that from this evil curling is entirely free. A few matches for money have indeed been played, but the pockets of the winners were never enriched thereby. A quantity of coals or meal for distribution among the poor is generally the stake where anything is laid upon a match beyond the simple honour of victory. Curling has thus been identified with benevolence, and often the hearths of the poor have been gladdened by the bonspiel. Perhaps the best and most

characteristic feature of this winter sport is the sociality which it develops. Liberty, equality, and fraternity are truly its watchwords. On the ice all divisions and differences caused by rank, riches, religion, politics, or anything else, may be said to disappear. Peer and peasant, landlord and tenant, clergyman and artisan, merchant and mechanic meet together in social brotherhood, forgetting for the time all distinction save that of curling skill. Add to all this the inevitable humour to which we make reference later on, and some idea may be formed of a game which in Scotland, at any rate, is by far the most popular of ice-sports.

Christopher North once truly said: 'That sport stirs the heart of auld Scotland till you hear it beating in its bosom.' In that country it is pre-eminently a national sport, and Scotsmen always delight to speak of it as 'Scotland's ain game o' curlin.' Since its introduction it has been under the patronage of the nobility of the country, and the clergy have also specially identified themselves with a sport which is on all hands acknowledged to be one of the healthiest and manliest. Scottish writers have also recognised its importance and sounded its praise. A quaint old Jacobite author, Dr. Pennecuick, as far back as the year 1715, very tersely says :—

> To Curle on the Ice does greatly please,
> Being a Manly Scotish exercise ;
> It clears the Brains, stirrs up the Native Heat
> And gives a gallant Appetite for Meat.

Allan Ramsay, in describing the 'active Hilaris'—his ideal of a man who is kept healthy by exercise—does not omit this pastime :—

> From ice with pleasure he can brush the snow,
> And run rejoicing with his curling throw.

Robert Burns gives perhaps the highest honour to one of his friends—Tam Samson—when he thus describes his curling powers :—

He was the King o' a' the core
To guard or draw, or wick a bore,
Or up the rink like Jehu roar
In time o' need.

Sir Walter Scott, in 'Guy Mannering,' introduces a lake scene, in which skaters and curlers are seen enjoying themselves. James Hogg, the Ettrick Shepherd, was himself a keen curler, and to him has generally been ascribed one of the best curling songs, beginning thus :—

Of a' the games that e'er I saw,
Man, callant, laddie, birkie, wean,
The dearest far aboon them a'
Was aye the witching channel-stane.
Oh ! for the channel-stane !
The fell good game, the channel-stane.
There's no a game that e'er I saw
Can match auld Scotland's channel-stane.

In verse and song the doings of curlers, and the praise of curling, have also been sung by Sir Alexander Boswell of Auchinleck, the Rev. Dr. Muir of Beith, the Rev. Dr. Duncan of Ruthwell (the founder of savings banks), the Rev. Dr. Norman Macleod, Principal Shairp, Dr. Sidey, and many others. Through all the songs there runs one strain of praise and admiration, and the associations to which we have referred as the charm of curling have thus had ample justice done to them by Scottish poets. Scottish painters have also transferred to canvas the excitements of curling : Sir William Allen, Sir George Harvey, and Lees having given us admirable representations of the bonspiel. In numerous volumes and articles the practical and scientific aspects of the curling game have also been fully described.

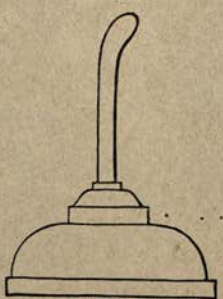
HISTORICAL

Of the origin of curling perhaps no more satisfactory account can be given than the tradition that Albyn Jove sent it as a gift to 'Auld Daddy Scotland,' as he sat one day 'bare leggit on a snawy brae,' with icicles at his snout, and crying—

A Threatening Storm, or a Day for the Besom

Oh ! for a cheery, heartsome game
To send through a' the soul a flame,
Pitt birr and smeddum in the frame
And set the blude a-dinling.

The Rev. John Ramsay, who wrote the first account of the game in 1811, ascribed to curling a Continental origin, from the number of Dutch or German terms (see Glossary, p. 379) used in the play, and his theory has generally been repeated in parrot-like fashion by succeeding writers. There is, however, no trace of the game in the Low Countries, and the etymology of the terms is not sufficient to prove that curling was conveyed thence to Scotland. The Dutch had a game called *Kluyten* or *Kalluyten* which, according to Kilian's 'Etymologicon Teutonicæ Linguæ' (1632), was played on the ice with frozen balls; but, except that both were played on ice, this game had no resemblance to curling. With the old Scandinavians a favourite winter sport was *Knattleikr*, a kind of cricket or Trap-ball played on the ice, but this was as far removed as *Kluyten* from the Scottish game. A common and ancient game was recently played at Munich, and throughout Bavaria, the ice-rink being fifty or sixty yards long, and the tees being square blocks of wood and movable, as in the game of bowls. The sticks (see fig. 1) used in play are from twelve to twenty-five pounds weight, and run on a sole of from ten to thirteen inches, bound with a rim of iron, the handle being about nine inches long and slightly curved. The mode of play was thus described by an onlooker (Professor Ferguson, Aberdeen) in 1848:—



'Ice-stick' (fig. 1).

There are from two to four players a side : the sides are chosen by ballot. Numbered balls are put into a box, and each man

takes his side according to the number of his ball. The places of the players are fixed by playing one end, and each man ranks according to the distance his stick measures from the Tee. The first player is called Maier, the second Engmaier, the third Helfer, and the fourth, when there is one, also Helfer. The Maier directs the game, and his is reckoned the most important stick. The sides do not play alternately, as with us; but, when one side has the shot, the other must play till they take it out. Each side has a right to play the Maier stick twice. When all the sticks are played, including the second playing of the Maier's, the party gaining the end counts six. If any party take the end without playing their Maier the second time, it counts nine. For example:—Suppose A and B to be on one side, C and D on the other. A plays, then C. If C has a shot B plays. If B takes the shot D plays. If D takes the shot, A plays his Maier, and supposing him also to take the shot, C follows with his Maier—and on taking the shot counts six, and it requires another end, probably two, to finish the game. Again, suppose A plays, then C. If A has the shot then D plays. If D take the shot, A plays his Maier; if he fail to take the shot, C and D count nine and the game is ended—the right of C to play his Maier not having been exercised. Again, suppose A and C play: A has the shot, D plays, and afterwards C plays his Maier, both failing to take the shot, A and B count nine. The stakes are paid at the end of each game, and there is always some stake played for. The rinks played on are at least ten yards longer than with us, and it must require considerable force to propel the sticks. They are swung backwards and forwards in the hand before being thrown off.

This Bavarian game resembles curling more than either of those we have referred to, but it is at the same time so unlike it that, even if it had existed at Munich before curling was known in Scotland, it would be rash to suppose that the game was imported from the Continent. Curling appears to be Scottish in origin, and in its progress and development it is distinctly such. Where or how the play began we cannot exactly say. In 1457, and at other later dates, we find the Scottish Parliament prohibiting golf and football as 'unprofitable sports,' when it was desirable that the people should practise archery for self-defence against the English. Curling was not so 'cryit

dune,' but this is no evidence that it was not then played. It may have been omitted because the art of 'throwing stones' may have been deemed as useful as that of shooting arrows, or the limited period during which it could be practised may have saved it from condemnation. A curious old coat of arms (fig. 2) has just been brought under our notice by Mr. Andrew Ross, Marchmont Herald, which shows that one of our old Scottish families embodied curling in the family crest, and that our suggestion as to the usefulness of the art is not amiss. The

FIG. 2.

'coat' is that of Drummond of Carlowrie in the parish of Kirkliston and county of Linlithgow, and is thus described in heraldic language :—

Bears or, three bars waved gules, and for a difference a mullet surmounted of an amulet. Crest, a dexter hand holding a curling stone with the motto, *Have at all.*

Samuel Drummond of Carlowrie was on the Committee of War in 1643, and this Hal o' the Wynd motto of his was therefore not inappropriate. The coat of arms, which is to be

published in the forthcoming 'Lockhart Collection of Heraldic Plates,' is to curlers of great interest, for besides its value in connecting our ancient nobility with the game, it is as far as we know the earliest illustration of a curling stone, and it also shows that, in the first period of play, the stone was flung without the aid of a handle. The earliest literary notice of the game of curling is found in the 'Muses Threnodie' by Henry Adamson (1638), to which Mr. Lang refers in the Badminton *Golf* (p. 21), for an early reference to that game. At page x. of that volume, in the inventory of Ruthven's *gabions*, we find :—

> His hats, his hoods, his balls, his bones,
> His allay bowles and curling-stones
> The sacred games to celebrat.

And at pages 2 and 3 of this quaint poem, where Ruthven calls upon his gabions to assist him in mirthful mourning for his friend Gall, after addressing his *bowes* and his *clubs*, he goes on :—

> And yee my loadstones of Lidnochian lakes
> Collected from the loughs, where watrie snakes
> Do much abound, take unto you a part,
> And mourn for Gall, who loved you with his heart :
> In this sad dump and melancholick mood
> The burdown yee must bear, not on the flood
> Or frozen watrie plaines, but let your tuning
> Come help me for to weep by mournfull cruning.

Archery, golf, and curling were thus, we may infer, the trio of 'games Olympike like' with these Perth worthies, and they are not referred to as new things, but as games of 'the times agone.'

The most ancient extant specimens of curling stones (if we may rely on the date carved in one of them) are to be seen in the Macfarlane Museum, Stirling. From the illustration (fig. 3) it will be noticed that one of them goes back to a date anterior to the battle of Flodden, while the other, although not certified in the same way, has the appearance of being still more ancient.

There is a tradition to the effect that James IV., the Scottish king at this time (1472–1513) was a curler, and that he presented a silver curling-stone to be played for annually by the parishes in the Carse of Gowrie as a token of his appreciation of the game. There is no evidence—not even that of the royal trophy—to verify this tradition, and no other tradition as to the curling capacities of the Scottish monarchs is to be relied upon, though it is quite possible the game may have enjoyed a share of royal favour. In the troublous conflict between Prelacy and Presbytery it would appear that curling was a bond of union betwixt Episcopalian and Covenanter, for in the General Assembly of 1638, George Graham, Bishop of

Ancient Curling-stones (fig. 3).

Orkney, was charged with being '*a curler on the ice on the Sabbath day*,' while William Guthrie of Pitforthy (1620–1665), one of the most noted of the Covenanters, was a keen curler. The gentry also, in these disturbed times, did not forget the sport, for we read in Fountainhall's *Decisions* under December 30, 1684, that when a party of the forces were sent out to apprehend Walter Scot of Harden, 'a man of good fortune,' he got news of their intention 'as he was playing at the curling with Riddell of Haining and others,' and fled from his pursuers.

By the end of the seventeenth century, the earlier type of curling-stone without handle had been displaced. That then in use was simply an ordinary boulder taken from the river or

the hillside, and having a rough iron handle fixed into it; each player used one stone, while eight players constituted a rink. The distance from tee to tee was much shorter than it is now, and the game, to judge from the heavy and uncouth appearance of the boulders used, must have been one of force rather than of science. The last, but certainly not the least, of this second kind of stone which has come under our notice, of which a drawing is here given (fig. 4), actually weighed 117 lb. During the seventeenth century curling must have made great progress in popularity in the country of its adoption. Besides

Old Curling-stone (fig. 4).

the references to it which we have already noticed, various interesting allusions to the game are found, such as those in Sibbald's 'Scotia Illustrata,' pt. ii. bk. iv. cap. iii. p. 46; Wallace's 'Description of Orkney,' pp. 9, 10; Camden's 'Britannia,' edit. 1695, p. 1076.

Still greater progress was made in the course of last century. In such repute was the game held in the Scottish capital, that at the beginning of the century the magistrates of Edinburgh are said to have marched in procession, headed by a band of music playing the Curlers' March, to open the sport on the North Loch, which then occupied the site of the present Princes Street Gardens. When the Jacobite rebellion ended in 1746, the

social game was enjoyed under more peaceful conditions, and, under the fostering care of societies or associations, curling rose to a position of national importance which it has never since lost. Perhaps the most important of these was the Canonmills Club, under whose auspices the Edinburgh curlers met after the North Loch was drained. Unfortunately no minutes of the club have been preserved, but we have a collection of 'Songs' composed for it, and published in 1792, which in sentiment and language are thoroughly characteristic of the curling muse.

Succeeding Canonmills, the Duddingston Club was formed in 1795. Among its members were noblemen and gentlemen connected with the various districts of the country, and many of the lords of session, advocates, and representatives of the learned professions. For a considerable time this club held a position of monarchy in curling, regulating the laws and customs of the curling fraternity, and its minutes are an important contribution to the history of the sport. During the century many writers, in addition to those we have already mentioned, gave attention to the national pastime. James Graeme published a poem in February 1771, in 'Ruddiman's Weekly Magazine,' which gives a spirited account of curling. Pennant, in his celebrated 'Tour,'[1] noted the popularity of the game in the Border-country.

A Kirkcudbright poet, Davidson, in 1789, published a volume of poems which contains a striking description, in the style of 'Chevy Chase,' of an encounter between rival chiefs on Loch Carlingwark. James Graham, the author of the 'Sabbath,' also wrote a fine poetical account of skating and curling on Duddingston Loch. At the beginning of the present century curling was general in most districts of Scotland when weather permitted. The stones used were gradually assuming a round shape, and a better style of play was thus cultivated. In 1811 a brief history of the game was written by the Rev.

[1] *A Tour in Scotland and Voyage to the Hebrides*, 1772. 2nd edition Part I. p. 93.

John Ramsay, and published under the auspices of the Duddingston Club. In 1830, Sir Richard Broun's 'Memorabilia Curliana Mabenensia' appeared, and in 1833 Dr. John Cairnie, of Largs, published his 'Essay on Curling.' This gentleman was one of the most enthusiastic curlers that ever lived, and he did much for the game. His essay is valuable and interesting for the information it contains as to the making of artificial ponds on which curling might be had with very little frost. The system has been greatly developed since Cairnie's time, and has contributed very much to the spread of the game.

By far the most important event in the history of curling was the formation in 1838 of the Grand Caledonian Club as a central association for affiliating under it all local clubs. Representatives from these clubs are annually convened for the purpose of settling disputes, discussing proposed changes in the play, awarding medals for competition between parish clubs and districts, and making all kinds of regulations and laws about curling which from time to time appear necessary. Complete success has for more than fifty years attended this association's work, and by it curlers at home and abroad have been bound together under one government and one code of laws. In 1842, when the late Prince Consort and Her Majesty the Queen visited Scotland, the Prince agreed to become Patron of the Club. This office is now held by the Prince of Wales. The club since 1843 has, by Her Majesty's express permission, borne the title *Royal*, and representatives of most of our great historic families have from year to year been its Presidents. At the present time there are in Scotland, in affiliation with this Central Association, 481 curling clubs with a membership amounting in the aggregate to 18,800. An 'Annual' is published by the Royal Club (whose secretary's office at present is 29 St. Andrew Square, Edinburgh), containing club lists, matches, and rules of the game, with songs and other literary matter, and on the occasion of its Jubilee a history of the game was prepared for the club and published as a memorial of the event.

Let us now retrace our steps and take a brief survey of the history of curling beyond Scotland. One of the features of the age in which we live is the rapid spread of that other Scotch game, golf, which bids fair to become universal. But universality for curling can neither be expected nor perhaps hoped for. To begin with, Nature, for her own good ends, sees fit to write over the entrances of certain countries, '*Curling* abandon ye who enter here.'

But it is not simply the temperature that hinders curling from being everywhere acclimatised. The game is so radically and essentially Scottish that it cannot, like golf, throw off its nationality and adapt itself to the language and manners of any other country. Wherever a curling-pond is found, a Scotsman is sure to be found at the bottom of it, and the game will not be universal, even where it is possible, until Scotch is the one tongue and the human race one great Scotch family—an event which, however desirable it may appear to some, is not a probable occurrence.

When the game crossed the Border we cannot say. His Majesty King William IV., if we are to believe Sir Richard Broun, had several pairs of curling-stones sent to Bushey Park, but how they fared there we are not told. The same writer gives an Ossianic description of a bonspiel between England and Scotland in 1795. Ramsay, in 1811, says the game had then found its way to London, but the crowd of spectators was so great when a match was played on the New River that the players had to stop, as the ice threatened to give way. There are now in England thirty-three clubs with a membership of fully 1,600 affiliated to the Royal Club. Doubtless the scarcity of ice is against the progress of the game in the South, for the frost is not so keen and the lochs are not so numerous as in Caledonia, the 'land of the mountain and the flood.' Still it is a pity that in certain districts in England, where ice is more common the game is practically unknown. Some of the English nobility might provide themselves with an excellent winter sport by constructing artificial ponds in their private

parks and ordering a few Ailsas for themselves and their friends To England belongs the credit of a bold attempt to outwit the climate and have skating and curling wil or nil John Frost. In 1842 a glaciarium was constructed in London by a Mr. Kirke, and used for a time. In 1877 the Rusholme Ice Rink at Manchester was constructed on Professor Gamgee's principle at a cost of 20,000*l.* The Southport Glaciarium followed in 1879 at a cost of 30,000*l.* On this artificial rink many famous matches were played, in which Englishmen proved that they could hold their own with those who crossed the Border to take home the Holden and other trophies which were offered for competition. In 1883 a proposal was made to construct a glaciarium in the Lillie Bridge Grounds, but it fell through, and, as the Southport Rink has had to be closed for want of patronage, it is to be feared that the chances of any further development of this ice-making scheme are very small.

Curling seems to have been introduced into Ireland by the Scottish colonies who were planted there in the reign of James I. It had, however, disappeared when Dr. Cairnie got the Belfast Club formed in 1839. At Lord Dufferin's residence, Clandeboye, another club was formed in 1879, and in the same year a club was instituted at Kiltonga, Newtonards.

The game has gone farther and fared better. In the Dominion of Canada, where frost and Scotch settlers prevail, curling is a favourite winter sport. At Quebec and Montreal we hear of clubs as far back as the beginning of the present century. There are now 19 clubs in the Quebec province, all affiliated to the Royal Club. In many of these curlers enjoy the game to their heart's content for four or five months every winter under the shelter of covered rinks. Owing to the intense frost iron has to be used instead of stone, the weight of the *irons* being from 40 to 70 lb. These irons are, of course, smaller than the ordinary stones, and with them great scientific skill and accuracy in play are obtained.

In the year 1874 curling had made such progress in Western Canada that the Ontario Province was formed into a

separate organisation with headquarters at Toronto. In this province the curlers use the time-honoured 'stones' in play, the principal stone in use being the 'Ailsa Craig.'

Only recently new branches have been organised in the Maritime Provinces and in Manitoba respectively, and progress goes on apace in a country where the conditions are perhaps the most favourable that obtain for a proper enjoyment of the sport.

Curlers in the United States have also, since 1867, been organised under a grand National Club with its head-quarters in New York. The American War for a time interrupted the development of the game in the States, but under their mottoes 'E pluribus unum' and 'We're brithers a',' the curlers there now follow undisturbed their favourite amusement.

A footing has also been obtained by the roaring game in New Zealand, Newfoundland, Nova Scotia, Russia, Norway, and we hear of its introduction in Switzerland. The following table gives a view of the present distribution of clubs and curlers, as far as statistics can be had :—

	Clubs	Members
Scotland	481	18,800
England	33	1,607
Ireland	3	64
Norway	1	15
Russia	1	26
New Zealand	6	193
Quebec Province	19	1,081
Ontario Province	99	3,051
Manitoba	18	810
Nova Scotia	7	287
Newfoundland	3	89
New Brunswick	3	155
United States	40	800
Total	714	26,978

PRACTICAL

(*a*) *Ponds.*—Some account of the various requisites for the game of curling is the most natural introduction to the practical part of our subject. Like golf, the game cannot be had 'complete in a box,' but the area needed for the operation of the curler is altogether more limited and compact than that which satisfies the heart of the golfer, and the curler's wants are on the whole fewer, his tastes much less expensive, than those of his gutta-percha brother. Nature in her 'melting mood' is the curler's horror. He prefers the cold reception of her rigid countenance, and the best gift she can offer to win his affection is simply—ice. This is the prime requisite of the game. Since the modern attempt to draw down frost has ended almost as disastrously as the ancient effort to draw down fire from heaven, the wisest course now to follow is to make the most of the allowance of ice which nature sees fit to grant us. This was what Cairnie taught curlers to do when he invented artificial ponds.

His plan was to prepare a surface of pavement, the blocks being bound together by cement; but for an artificial pond now, on which with a thin coating of ice curling may be had, the best plan is to get it made out and out of cement by a competent contractor, who will uphold it free from cracks for a term of years as part of his bargain. Care should be taken that it be screened equally and as much as possible from the rays of the sun, a protection secured by trees on the south side of the pond. This, of course, where we have not, as in Canada, frost so severe as to allow of covering the rink altogether. The pond should be big enough to hold, with a sufficient margin, two at least of the rinks drawn at p. 354, and for those who so desired, might, when the frost departed, be found useful for playing the game of lawn-tennis.

Water-borne ice, when it can be had, is, of course, preferable to any other. It gives the 'boom' and the 'roar' which make 'the music dear to the curler's ear.' The game is seen

at its best when it is played on a frozen lake or loch of picturesque appearance, with skaters flying to and fro. The *tout ensemble* is then perfect. But curlers ought to be sure of the ice if the water is deep beneath. There is an idea that 'curlers winna drown,' but it is better not to run the risk, and on a loch or lake, however strong the ice, appliances should always be at hand in case of accidents.

Where no natural loch or lake is at hand, the rivulet, river, or stream may be utilised, and dammed up or diverted to supply a sheet of water for the game, when the depth can be regulated so as to be quite safe. With a clay subsoil, this is a simple matter, a strong and water-tight embankment being all that is needed. Where the subsoil is porous, clay must be puddled down to a depth of six inches to form a suitable bottom. It is important to bear in mind that either curling or skating on ice formed over still water, or where the water is decreasing, is positively dangerous. To supply the contraction caused by the formation of ice, or to make up the loss by the outlet, there must be an inlet of water, or an accident is likely to happen.

Alongside of the curling rink, it is usual to have a house fitted up for the reception of the stones, and the various articles required in the game, where players may also discuss their business and their refreshments in comfort. From the wooden hut by the loch far up the side of the Highland mountain, to the 'movable house with eight club rooms,' gifted by the corporation of New York to the curlers of that city, and the splendid saloons which adjoin the covered rinks in the great Canadian centres, these needful adjuncts are of infinite variety, according to the size and status of the clubs for which they are built, and it is not necessary to give advice regarding their construction.

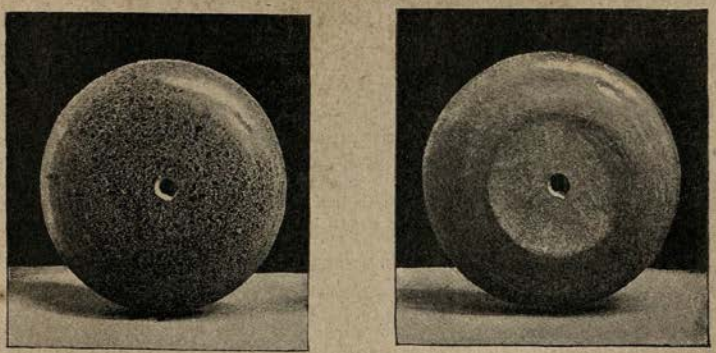
(*b*) *Stones and Handles.*—The most important article in the curler's outfit is the curling-stone. Given a piece of ice, with what kind of weapon is he to wage war against his opponents? What is the best material, size, and weight for a curling-stone? To this question a direct answer cannot be given. In the

Quebec province, as we have seen, the play has to be done in iron. The climate, the quality of the ice, the place which the player is to occupy in a rink, his personal tastes, his physical powers, all have to be considered in determining what kind of stone he is to use. Rigid uniformity is, therefore, neither possible nor desirable. If nature has not permitted curlers to interfere with her power of making ice, she has given them a free hand in the making of curling-stones, and they have taken full advantage of this liberty. By the end of last century the doom of the old nature-made boulder was sealed by the Duddingston regulation that 'all stones must be of a circular shape.' Then the Royal Club added a law that 'no stone, including handle, shall be of a greater weight than 50 lb. imperial, or of greater circumference than 36 inches, or of less height than one-eighth part of its greatest circumference.' These salutary regulations, and the introduction of steam machinery for grinding and polishing the stone, have driven all monstrosities off the ice; and now, instead of unsightly lumps, fit only to be flung into the dykeside after the season is over to lie till frost came round again, we have in our modern Ailsa or Crawfordjohn, as it appears before us waiting for the washer and the bolt (fig. 5) or (fig. 6), handled and ready for operation, 'a thing of beauty' worthy to adorn a drawing-room.

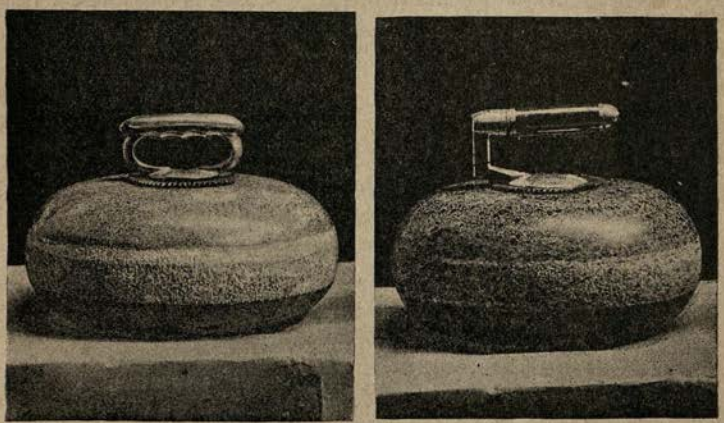
In selecting a pair of stones the curler should, therefore, not omit to take the 'beauty' of the articles into account, although this must not, of course, be preferred to real worth. As to weight, the maximum of 50 lb. is very rarely seen on the ice. Between 35 and 40 lb. the average weight will be found, and unless he is himself below or above the average, the curler will be wise to confine his attention within these limits. Let him remember that the stone must be his servant and not his master, and he will select one over which he has full command. At the same time it is necessary to bear in mind that his best assistant in the management of the stone is *polish*. The careful curler will never allow his curling-stones to lose their gloss and brilliancy. With these the heaviest

stone is easily managed, without them the lightest stone is dull, stubborn, and unmanageable.

The localities in Scotland from which stones suitable for



Curling-stones (fig. 5).



Curling-stones (fig. 6).

curling may be obtained are numerous, and the names of the various kinds of stones must be understood to indicate the locality from which they are taken. What the curler requires

is a *true* stone—i.e. a stone which will not simply be dull when the ice is dull, and keen when the ice is keen, but which will be equable in mood, not affected much by the change of the weather, a stone on which he can depend to go undauntedly through *baugh* or sluggish ice, while on ice which is hard and polished it can be held back and regulated in its motion as he desires.

Professor Foster-Heddle, from a geologist's standpoint, gives us the following statement as to the nature of the stone most suitable for curling :—

> The excellence of any one rock depends upon the relative amount of the *hard*, *heavy*, and *tough* ingredients ; upon their relative firm adhesion one to the other, through a promiscuous interlocking of the component crystals, and to uniformity in structure throughout. *Ceteris paribus*, the smaller the grain the better.

Having placed the variety of stone under the microscope, the same eminent geologist gives us the following table of their relative merits :—

Burnock Water	10	Carsphairn	6
Crawfordjohn	8½	Crieff Serpentine . . .	5½
Ailsa Hone	7½	Tinkernhill	
Crieff Black	6½		

The geologist's evidence is corroborated in great measure by the practical experience of curlers. Personally, we prefer Burnock Water to any other, and accordingly have always played with that variety of stone. We have also the testimony of many brethren of the rink in its favour. A great many Scottish curlers, however, unhesitatingly give first place to the Crawfordjohn variety. As a *true* stone, it is certainly worthy of highest praise. If it can be secured as a *boulder* or *kernel*, and got into shape, it is perhaps of all stones the best, and its beauty (*vide* fig. 6) is undeniable. But blocked in the quarry as it generally is, it is more liable to break than Burnock, and the stone-makers have so many 'failures' in grinding this particular kind of stone that it does not 'pay' them to work it. To judge from the number on the ice at the present time,

the most popular of all stones is the Ailsa, of which there are three varieties, all obtained from Ailsa Craig: the Red Hone, the Blue Hone, and what is called the common Ailsa. The Ailsa Red Hone commands the highest price of any in the market. This, we believe, is not on account of its superior merit, but rather because of its scarcity; for it is not plentiful on the Craig, and not easily quarried when it is found. The Blue Hone we hold to be infinitely superior, and the geologist whose statement we have referred to is strongly of this opinion after examining the nature of both under the microscope. The Common Ailsa is little inferior to the Blue Hone, and superior to the Red Hone, despite the fact that it is much cheaper. Curlers in the home country favour the Ailsa for the virtue it possesses of overcoming dull ice; but when the ice is keen, the Ailsa is 'neither to haud nor to bind'; once in motion there is no saying when it will stop or what it will do. In Canada it is clearly the favourite stone, for its hardness makes it almost as good as iron to use in the excessive frost. Fully 1,000 pairs are annually taken from the Craig, of which the majority are destined for clubs beyond the Atlantic. There are many other varieties worthy of attention, but we have said enough to indicate the points which ought to be considered in the choice of stones.

The curling-stone now in use is generally reversible, one side being prepared for keen ice, the other for ice which is dull or soft. When one side does not suit, the player, according to a rule recently adopted, can change the side of his stone. This is a great advantage and conduces to a more enjoyable and more scientific game. By referring to fig. 5, the reader will see that a hollow is scooped out in the stone so that it runs on a circular ring about $5\frac{1}{2}$ inches in diameter, as is general in Canada, or, say, $3\frac{1}{2}$ inches, as is common in Scotland. On the keen side the ring is smaller, say $2\frac{1}{2}$ inches. In some cases there is no ring at all, the bottom of the stone being simply curved so that the stone runs on a pivot.

In the double-sided stone now nearly universal, the handle

is fixed on a bolt running through the centre of the stone. Fig. 7 shows us the bolt and the leather 'washer' by which the handle is firmly screwed on to the stone, and we have here also a few specimens of handles. The closed specimens are becoming popular with a good many curlers. We prefer the open form, but the subject is not one on which to initiate discussion. The best handle is that with which the stone can be

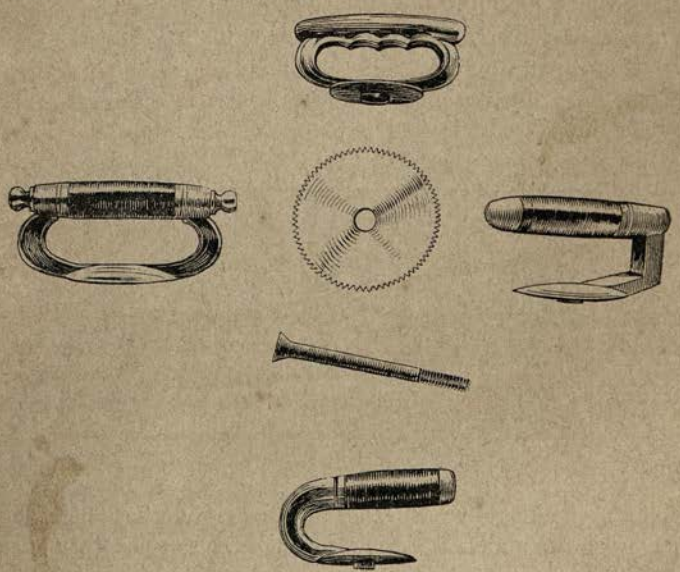


FIG. 7.

best managed, and the curler ought to test them all before choosing.

(*c*) *Etcetera.*—Next in importance to stones and handles is the *broom* or *besom*, without which no curler should appear on the rink, for sweeping is a great factor in the game. Suitable articles of the kind made of jute or other material can be had at small cost, but nothing beats the *kowe* made from Scotland's native broom.

The bottle-shaped article in fig. 8 is a wooden invention for indicating the *tee* used at Dunkeld and other places, but we do not think it necessary. The besom shank rests on a bag, which has been patented by Mr. Roderick Anderson, Princes Street, Edinburgh, for carrying the stone, and is very useful. Baskets or boxes for the same purpose are also to be had, and something of the kind is indispensable to the curler who would preserve the stones from injury when he has to travel to a match.

Underneath the bag in the same drawing is an illustration of the steel crampit or *foot-iron* now generally in use, from which the player delivers his stone. In olden time the curler

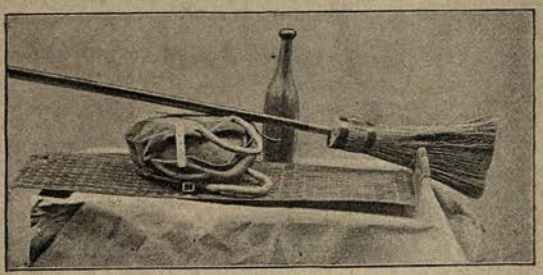


FIG. 8.

kept his footing by having crampits fixed upon his boots, and he was not compelled, as now, to play from one particular spot. In the modern game he is bound to 'fit his tee,' and take aim from a particular position indicated in our drawing of the rink. There is therefore no necessity for any crampit being affixed to his boot, and every curler should acquire the art of keeping his footing on the ice in all circumstances without having his ordinary soles improved by any safeguards.

For laying out the rink on which the game is to be played, a useful and indispensable article is the *tee-ringer*, which is seen in operation in our next drawing (fig. 9). By its means the rings are drawn which encompass the 'boardhead,' 'home,' or

'parish,' beyond which no stone is allowed to count. If made in double form it will, when unfolded and extended lengthways from the tee, find the position of the hog-score, and by its means this score can be drawn on the ice. A *tape-line* is also necessary to measure the distances in forming the rink. A movable *counter*, on which to show the state of the game, as in billiards, ought to be placed at the rink-end during the match, and a player on each side told off to see that the score is correctly registered. For the purpose of measuring disputed shots, it is also necessary to have a pair of monster *compasses*,

Tee-ringer (fig. 9).

one leg of which should be finished with iron to be placed in the tee, and the other carried round to the nearest edges of the stones very quickly determines their relative value.

From our account of the various requisites of the game, it is evident that it can best be promoted by the formation of clubs. The player has then simply to provide his besom and his curling-stones, and the other requisites, such as pond, curling-house, crampits, &c., he finds provided for him. As it is desirable to have some one to take charge of everything, an *officer* can also be secured, who will be at the service

of the members, each of course contributing his share toward the club's outlay by such annual contribution as is thought necessary. When a fair number of players are to be found in any locality willing to fraternise, they should apply to the Province or Branch of the district to have their club affiliated. In the home country direct application should be made to the Royal Caledonian Club, whose rule requires that each club should have at least eight members, 'a designation and sheet of ice for its operations, and be governed by office-bearers, elected in accordance with the rules of this club.'

In return for the entrance and annual fees, the club, when admitted, is drawn against other clubs to compete for silver medals, and in this and other ways the love of the game is fostered, and its advantages fully enjoyed.

Formerly a ceremony of initiation had to be gone through before the curler could be accounted a 'brother,' but this custom appears to be gradually falling into desuetude, and the 'word' and 'grip' which constituted the Freemasonry of the game are now unknown to the majority of curlers.

(*d*) *The Point Game.*—The ordinary game of curling is played rink against rink, each rink consisting of four players, and each player using two stones. It is as these players seek to lay their own stones nearest the tee, and to strike out the stones of their opponents, that the various *points* of the game emerge. The number of points arising in a game is simply endless. No two heads or ends are exactly the same. Like Cleopatra's charms, custom cannot stale their infinite variety. To practise all the points in a single-handed competition is therefore impossible. In the regulations drawn up by the Royal Club for this point game, for which local medals are given, *nine* points are selected, the ninth, *outwicking*, being played only to decide a tie. These rules, and the various diagrams with the explanation of each of the nine points, are now introduced, and may be recommended for study.

RULES FOR LOCAL MEDAL COMPETITION

(POINT GAME)

1st. Competitors shall draw lots for the rotation of play, and shall use two stones.

2nd. The length of the rink shall not exceed 42 yards; any lesser distance shall be determined by the umpire.

3rd. Circles of 7 feet and 4 feet radius shall be drawn round the tee, and a central line through the centre of the 4 foot circle to the hog-score.

4th. Every competitor shall play four shots at each of the eight following points of the game, viz.:—striking, inwicking, drawing, guarding, chap and lie, wick and curl in, raising, and chipping the winner, according to the following definitions. (See next page.)

5th. In Nos. 2, 6, 8, and 9, two chances on the left and two on the right.

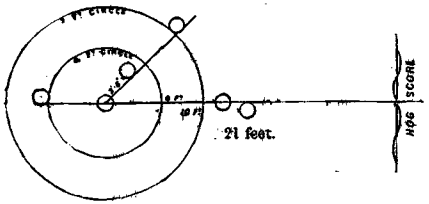
6th. No stone shall be considered *without* a circle unless it is entirely clear of that circle. In every case a square is to be placed on the ice to ascertain when a stone is without a circle, or entirely clear of a line.

Note 1.—The above rules and definitions are applicable only to medals given by the Royal Club, and are not intended to supersede any regulations made by local clubs in competing for their own private medals.

Note 2.—It will save much time if, in playing for local medals, two rinks be prepared lying parallel to each other, the tee of the one being at the reverse end of the other rink; every competitor plays both stones up the one rink, and immediately afterwards both down the other, finishing thus at each round all his chances at that point.

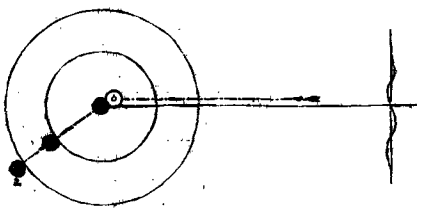
It will also save time if a code of signals be arranged between the marker and the players, such as, the marker to raise one hand when 1 is scored, and both hands when 2 are scored. In the case of a miss hands to be kept down.

Diagram to be drawn on the ice previous to playing

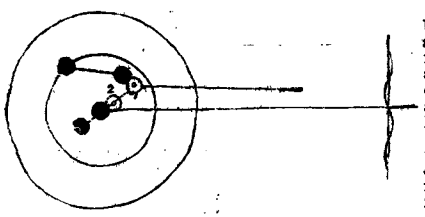


Placed Stones shown ●

Played Stones shown ⊙

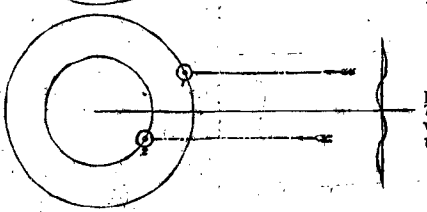


1, Striking. — A Stone placed on the Tee. If struck, to count 1; if struck out of the 7 foot circle, to count 2.

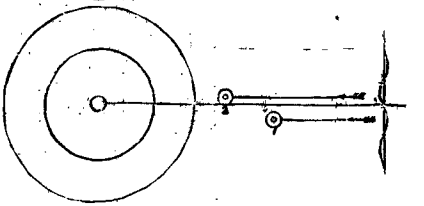


2, Inwicking. — A Stone being placed on the Tee, and another with its inner edge 2 feet 6 inches from the Tee, and its fore edge on a line drawn from the Tee at an angle of 45° with the central line.

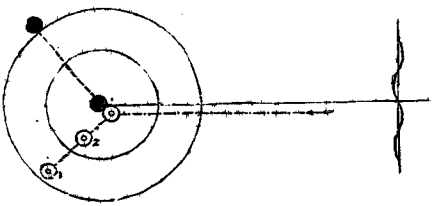
If the played Stone strike the latter on the inside, to count 1; if it perceptibly move both Stones, to count 2.



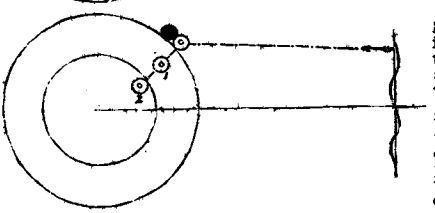
3, Drawing.—If the Stone played lies within or on the 7 foot circle, to count 1; if within or on the 4 foot circle, to count 2.



4, Guarding. — A Stone placed on the Tee. If the Stone played rests within 6 inches of the central line, to count 1; if on the line, to count 2. It shall be over the Hog, but not touch the Stone to be guarded.

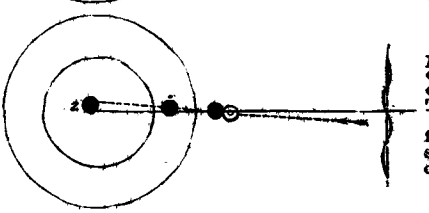


5, Chap and Lie. — If a Stone placed on the Tee be struck out of the 7 foot circle, and the played Stone lie within or on the same circle, to count 1; if struck out of 7 foot circle, and the played Stone lie within or on the 4 foot circle, to count 2.



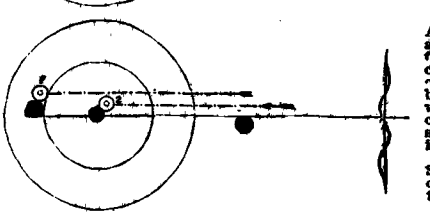
6, Wick and Curl in.—A Stone being placed with its inner edge 7 feet distant from the Tee, and its fore edge on a line making an angle of 45° with the central line.

If the Stone is struck, and the played Stone curls on or within the 7 foot circle, to count 1; if struck, and the played Stone curls on or within the 4 foot circle, to count 2.



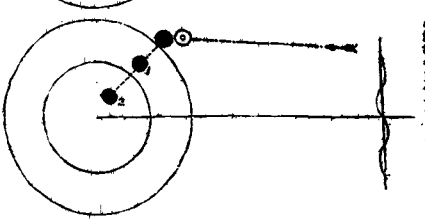
7, Raising. — A Stone placed with its centre on the central line and its inner edge 8 feet distant from the Tee.

If struck into or on the 7 foot circle, to count 1; if struck into or on the 4 foot circle, to count 2.



8, Chipping the Winner.—A Stone being placed on the Tee, and another with its inner edge 10 feet distant, just touching the central line, and half guarding the one on the Tee, and a third Stone being placed 4 feet behind the Tee, with its inner edge touching the central line, but on the opposite side from that on which the guard is placed.

If the played Stone strikes the Stone placed behind the Tee, to count 1; if it strikes the Stone on the Tee, to count 2.



9, Outwicking.—In the event of two or more competitors gaining the same number of shots, they shall play four shots at *Outwicking*, that is, a Stone being placed with its inner edge 7 feet distant from the Tee, and its centre on a line making an angle of 45° with the central line.

If struck within or on the 7 foot circle, to count 1; if struck within or on the 4 foot circle, to count 2.

If the competition cannot be decided by these shots, the Umpire shall order one or more of the preceding points to be played again by the Competitors who are equal.

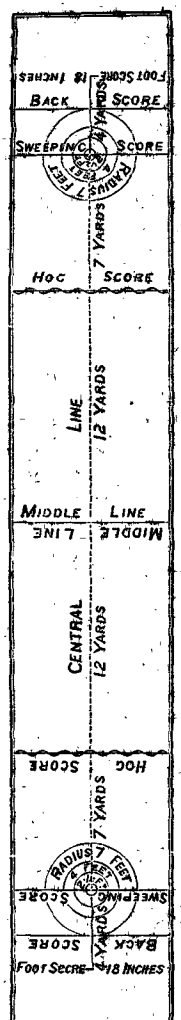
It must be understood that proficiency in this single-handed play does not necessarily imply skill in the whole art of curling. Sometimes an indifferent player has won the point medal. On the other hand, many curlers of reputation at the all-round game, such as the late Admiral Maitland Dougal of Scotscraig, have year after year gained distinction at points. This kind of play is to regular curling what anatomy is to the practice of surgery—a study of the bones preparatory to handling the living subject. It is therefore worthy of attention. One good purpose it certainly serves. It teaches modesty. Few try it whose misses are not twice the number of their hits. Up till 1888, when only one point was allowed for each hit, and the maximum attainable number of points was thirty-two, very few scored half that number in the fifty years in which the game was played under the Royal Club's rules, while the medals were often won by players who had not reached double figures in their scoring. The maximum attainable according to the rules given above is now sixty-four. It ought to be much easier to put on a thirty-two under these rules than it was to make sixteen under the old system. During the winter of 1890–91 this (thirty-two) was exceeded on more than one occasion, and whenever it is reached it deserves to be placed on record as an excellent score.

In Canada, where the ice was often 'run' or 'cooked' by having been long played on, some startlingly high scores were sometimes made. To make a fair comparison possible, it was enacted that the point game should always be played on new or virgin ice, and that each of the four shots should follow a fresh path.

Our Canadian brethren, in their point competition, have one point additional to the nine which have been described. It is thus defined in the Annual of the Manitoba Branch :—

Drawing through a port. One stone to be placed with its inner edge on the central line, 10 feet in front of the tee, and another stone placed parallel thereto, and with its inner edge 2 feet from the central line; if the played stone passes between these

two stones without touching either, and rests within or on the 14 ft. circle, to count 1; if within or on the 8 ft. circle, to count 2.



Plan of the Rink (fig. 10).

No better point than this can be practised. It is one of the most useful as it is one of the most difficult, and its speedy adoption at home would greatly heighten the value of the preliminary practice of the point game.

(*e*) *Rink play.*—With the full diagram of the curling rink now before us, we may pass on to consider the general rules of the game for rink play, as these have been framed by the Royal Caledonian Club, and adopted, with such modifications as were necessary, by all organised branches.

GENERAL RULES OF THE GAME OF CURLING

1. The length of the rink for play, viz. from the back end of the crampit to the tee, shall be 42 yards, and in no case less than 32 yards. Alterations are provided for in Section 17.

The tees to be set down 38 yards apart. Around each tee as a centre, a circle of 7 feet radius shall be drawn. (In order to facilitate measurements, 2 foot and 4 foot circles may be laid down.) In exact alignment with both tees, a line, called the 'central line,' shall be drawn, extending to a point 4 yards behind each tee. At this point a line 18 inches in length, at right angles to the central line, shall be drawn, on which, and 6 inches from the central line, the heel of crampit shall be placed. The back in this position

shall be 3 inches from the central line, and shall not be more than 12 inches in length.

Lines shall be drawn across the rink at right angles to central line, as indicated in diagram, and called 'hog scores,' 'sweeping scores,' 'back scores,' and 'middle score.'

The hog score shall be placed at one-sixth part of the entire length for play.

The sweeping score shall be placed across the tees, for the use of the skips, and the middle score midway between them, for the use of the players (for regulation of sweeping see Sections 9 and 12).

The back score shall be placed just outside and behind the 7 foot circle.

N.B.—Every stone shall be eligible to count which is not clearly outside of the 7 foot circle. Every stone shall be a hog which does not clear the score, and must be removed from the ice; but no stone to be considered as such which has struck another stone lying in position. Stones passing the back line, and lying clear of it, must be removed from the ice, as also any stone which in its progress shall touch the swept snow on either side of the rink.

Note.—Reference in forming rinks is made to the diagram or plan, called 'The Rink.'

2. All matches to be of a certain number of heads, to be agreed on by the clubs, or fixed by the umpire, before commencement; or otherwise, by time, or shots, if mutually agreed on. In the event of parties being equal at the conclusion of the match, play shall be continued by all the rinks engaged for another head; or, if necessary to decide the match, for such additional heads as the umpire shall direct.

3. Every rink to be composed of four players a side, each using two stones. The rotation of play observed during the first head of match shall not be changed.

4. The skips opposing each other shall settle by lot, or in any other way they may agree upon, which party shall lead at the first head, after which the winning party shall do so.

5. All curling-stones shall be of a circular shape. No stone, including handle, shall be of a greater weight than 50 lb. imperial, or of greater circumference than 36 inches, or of less height than one-eighth part of its greatest circumference.

6. No stone shall be changed after a match has been begun,

but the side of a stone may be changed at any time during a match, provided Sect. 10, Chap. V. is adhered to.

7. Should a stone happen to be broken, the largest fragment shall be considered in the game for that end—the player being entitled to use another stone, or another pair, during the remainder of the game.

8. If a played stone rolls over, or stops, on its side or top, it shall be put off the ice. Should the handle quit the stone in delivery, the player must keep hold of it, otherwise he shall not be entitled to replay the shot.

9. Players, during the course of each end, to be arranged along the sides, but well off the rink, as the skips may direct; and no party, except when sweeping according to rule, shall go upon the middle of the rink, or cross it, under any pretence whatever. Skips alone to stand within the 7 foot circle—the skip of the playing party to have the choice of place, and not to be obstructed by the other, in front of the tee, while behind it the privileges of both in regard to sweeping shall be equal.

10. Every player to be ready to play when his turn comes, and not to take more than a reasonable time to play. Should he play a wrong stone, any of the players may stop it while running; but if not stopped till at rest, the stone which ought to have been played shall be placed in its stead, to the satisfaction of the opposing skip.

11. If a player should play out of turn, the stone so played may be stopped in its progress, and returned to the player. Should the mistake not be discovered till the stone be at rest, or has struck another stone, the opposite skip shall have the option of adding one to his score, allowing the game to proceed, or of declaring the end null and void. But if a stone be played before the mistake has been discovered, the head must be finished as if it had been properly played from the beginning.

12. The sweeping shall be under the direction and control of the skips. The player's party may sweep the ice from the middle line to the tee, and any of their own stones when set in motion,—the adverse party having liberty only to sweep in front of any of their own stones which have been set in motion by a stone played by the opposite party. Both skips have equal right to clean and sweep the ice behind the tee at any time, even when a player is being directed by his skip. At the end of any head, either of the skips may call upon the whole players to clean and sweep the

entire rink, but being subject in this, if objected to, to the control of the acting umpire. The sweeping shall always be to a side; and no sweeping shall be either moved forward or left in front of a running stone. When snow is falling, the player's party may sweep the stones of their own side from tee to tee.

13. If, in sweeping or otherwise, a *running* stone be marred by any of the party to which it belongs, it may, in the option of the opposite skip, be put off the ice; but if by any of the adverse party, it may be placed where the skip of the party to which it belongs shall direct. If marred by any other means, the player shall replay the stone. Should any *played* stone be displaced before the head is reckoned, it shall be placed as near as possible where it lay, to the satisfaction of, or by, the skip opposed to the party displacing. If displaced by any neutral party, both skips to agree upon the position to which it is to be returned; but should they not agree, the umpire to decide.

14. No measuring of shots allowable previous to the termination of the end. Disputed shots to be determined by the skips; or, if they disagree, by the umpire; or, when there is no umpire, by some neutral person chosen by the skips. All measurements to be taken from the centre of the tee to that part of the stone which is nearest it.

15. Skips shall have the exclusive regulation and direction of the game for their respective parties, and may play last stone, or in any part of the game they please, but are not entitled to change their position when once fixed. When their turn to play comes, they may name one of their party to act as skip for them, and must take the position of an ordinary player, and shall not have any choice or direction in the game till they return to the tee head as skips.

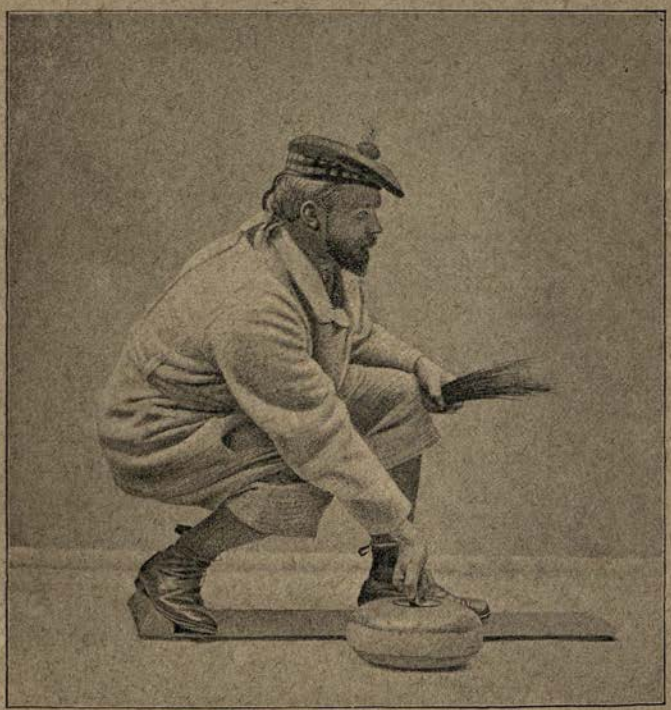
16. If any player engaged, or belonging to either of the competing clubs, shall speak to, taunt, or interrupt another, not being of his own party, while in the act of delivering his stone, one shot may be added to the score of the party so interrupted for each interruption, and the play proceed.

17. If from any change of weather after a match has been begun or from any other reasonable cause, one party shall desire to shorten the rink, or to change to another; and if the two skips cannot agree, the umpire shall, after seeing one end played, determine whether the rink shall be shortened, and how much, or whether it shall be changed, and his decision shall be final. Should

there be no acting umpire, or should he be otherwise engaged, the two skips may call in any neutral curler to decide, whose powers shall be equally extensive with those of the umpire. The umpire, moreover, shall, in the event of the ice being in his opinion dangerous, stop the match. He shall postpone it, even if begun, when, in his opinion, the state of the ice is not fitted for testing the curling skill of the players; and except in very special circumstances, of which the umpire shall be judge, a match shall not proceed, or be continued, when a thaw has fairly set in, or when snow is falling, and likely to continue during the match. Nor shall it be continued when such darkness comes on as prevents (in the opinion of the umpire) the played stones being well seen by players at the other end of the rink. In every case the match, when renewed, must be begun *de novo*.

(*f*) *Under authority.*—From the above rules it will be seen that the rink game is in the hands of a skip or director. Of his important duties we shall speak later on. To the members of the rink we would first of all address ourselves, and counsel them at the outset to remember that they are under authority. The skip is the general; they are soldiers under him, and are bound implicitly to obey his commands. 'Theirs not to reason why.' Obedience is the first and last necessity in a rink of curlers. Where each thinks he knows more about the game than his neighbours, or even his skip, there is confusion and strife, and every likelihood of losing the match. Nowhere more truly than in a curling match does the maxim hold—'Unity is strength.' The player has not, as in the point game, to try how much he can out-distance others in his score. The battle rages round the *tee*. Four against four contend for its possession, who first to take it, who last to hold it. Each has his place to fill. The first player, with a pair of heavy stones, must draw up toward the coveted spot. The second must protect the *lead* if the enemy has not dislodged him. The third most likely will have a *brittle*, i.e. an angular wick or cannon-shot shot to play. By that tee, watching and directing, stands the skip. He knows what is wanted. He knows what part each has to perform. He gives his orders accordingly,

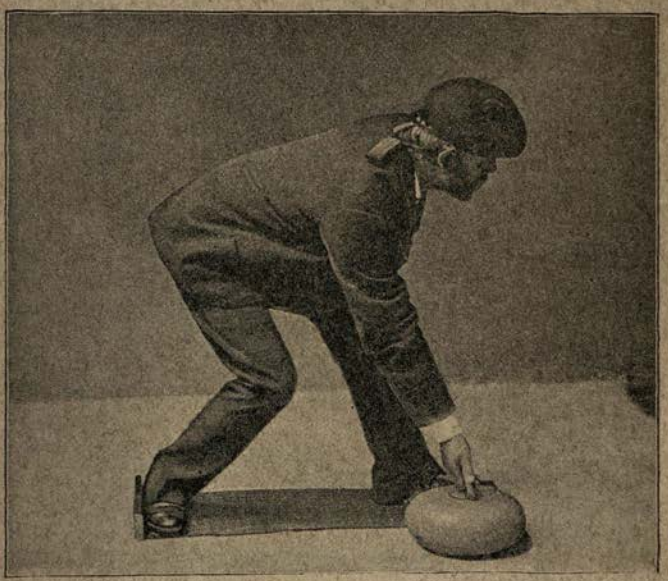
and expects them to be obeyed. Insubordination is therefore as heinous a crime on the ice as it is in the army. It is not simply when he is on the crampit playing his stone when his turn comes that the curler has to remember the duty of obedience to authority. To sweep or not to sweep he must



Position (fig. 11).

always be prepared. For want of a helping 'soop,' one stone may lie a 'senseless hog.' By excess of sweeping, another may go raging 'owre a' ice.' Each is valueless. From his coign of vantage, the skip, as soon as the stone leaves the hand of the player, can or ought to gauge its necessities.

At his cry, 'Soop, lads, soop,' every besom should be down and plied on the ice with might and main. 'Polish him weel, ye sinners.' 'Oh, for elbow-grease!' Be that his cry, then more intensely let them sweep as a matter of life and death. But instantly he shouts, 'Besoms up, men, besoms up,' let the action be suited to the word. Under authority,



Position (fig 12).

then, from first to last, in playing and in sweeping, and victory is the reward.

(*g*) *Position.*—Now that our curler is ready to receive and obey the orders of his commander or skip, let us advise him as to his *position.* Under rule 1 distinct instruction is given as to the place of the crampit on which he is to take his stand, or the *hack* in which his right foot is to be placed. Fig. 11 will give him an illustration of the kind of position which the majority

of curlers are accustomed to take as they are about to play. He must first *fit the tee*, i.e. he must so place himself that his eye travels along the central line toward the farther tee, while his right foot rests in the hack or on the heel of the crampit. No matter what kind of shot he may be asked to play, even though the point aimed at may be several feet to the right or to the left of the distant tee, the crampit or the hack is immovable, and no advantage must be taken by changing to a place from which the shot could be more easily taken. This is to *fit fair*, and it distinguishes the modern scientific game from the ancient style in which the curler with his crampits fixed on his shoes might play, now from one side, now from another, as it suited him. Fig. 12 is an illustration of another common position in which the limbs are not bent so markedly, and the body is more of a fixture, the right arm doing the principal work from the shoulder in a pendulum style. We have seen capital curling in this position. No hard-and-fast rule can therefore be laid down. Ease should not be sacrificed even to elegance, and the player need not trouble himself about the awkwardness of his position if he find that he has command of his stone and can always do the needful when his skip gives the word of command. Some good advice is summed up in the old curler's word adopted by the Sanquhar Society in 1776 :—

A keen Curler.

> If you'd be a curler keen,
> Stand right, look even,
> Sole well, shoot straight, and sweep clean.

'Look at the mark with all your een' is a variation on 'Look even.' The eye must be intently fixed on the object

aimed at, and fixed on that it must remain till the stone has left the hand.

The *swing* now requires attention. We may apply Horace Hutchinson's maxim as to the head of the club in the swing at golf, and say—'that the curling-stone should describe the same figure in its upward journey as you hope to make it describe in its descent.' The two players whom we have already figured

Position (fig. 13).

will approach nearer to one position when the stone pauses before the downward swing begins ; but the player in fig. 11 will rest more on the right foot, the left being drawn back toward the heel of the crampit, and not fixed in its original position, as with the player before us (fig. 13). As the stone descends the centre of gravity is advanced, and the left foot must also be lifted and advanced as a base line to preserve the stability of the body. This saves one from rushing forward along the ice

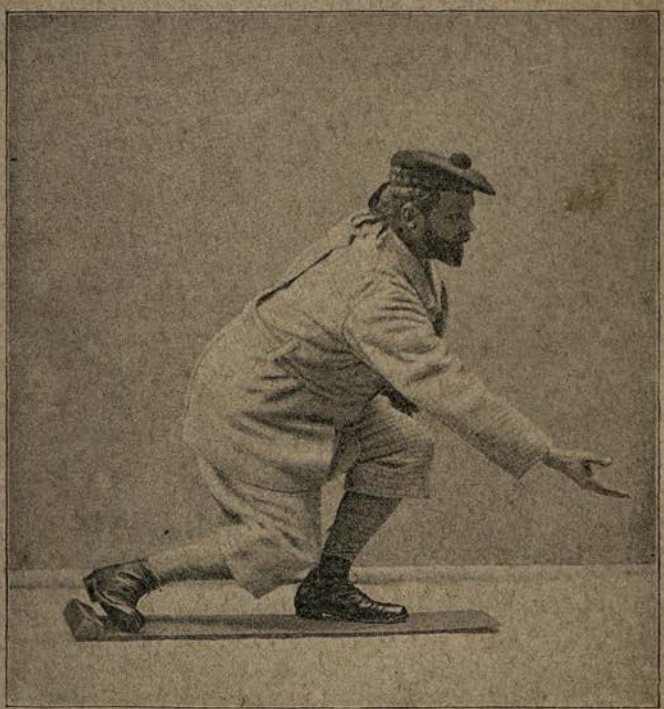
as some curlers do to recover their stability, and the lifting of the left foot in this way gives freedom in swinging the body and arm to the right or to the left as the mark to be aimed at may require, for such movement is necessary and does not interfere with the first duty of *fitting the tee*. If the rule above given be observed, the stone, in the downward swing, will come quietly and smoothly into contact with the ice, and then make a good start on its momentous errand. One of the worst faults in curling is a clumsy and awkward *delivery* of the stone. By this the ice alongside the crampit is cracked and broken up, and the curler gives much annoyance to the other players. Besides, he does injury to himself. When a stone is quietly and gracefully *soled* or *delivered*, it is far more effective than a stone played with double energy, the force of which is half spent by the blow it receives as it meets the ice.

When the curling-stone has left the player's hand, as in fig. 14, the whole weight of the body should rest on the left foot, and there is no necessity for the player to career up the rink after his stone as some do, nor for the physical contortions by which others, to the terror of uninitiated spectators, express their mental agony. But it is 'the roaring-game,' and if roaring will do it, let them shout to the stone, the sweepers, and the skip, and even to the skies.

(*h*) *The twist.*—We must now direct attention to the acme of the curling art, the accomplishment which gives a finishing touch to curling proficiency, and differentiates the truly scientific player from all his brethren, however keen and successful they may be. Besides the name we have given it we may call it in golfing parlance the *wrist* shot, for it is the wrist which has to do with it. It is by curlers variously designated in its twofold aspect as 'elbow in, elbow out,' 'in-turn and out-turn,' 'in-wheel and out-wheel,' 'wee finger in, wee finger out.'

A man may be a famous curler without knowing anything of this special art—a Paganini playing on one string; but as the sport is practised, the twist is more and more being recognised as the highest proof of that scientific skill, which, as the

regula regulans, approves or condemns any fresh feature in the development of the game of curling. This being so, it becomes us to give it all the attention it deserves. One strong certificate in favour of the twist is that it is practised systematically by our Canadian brethren. Its chief advantage is

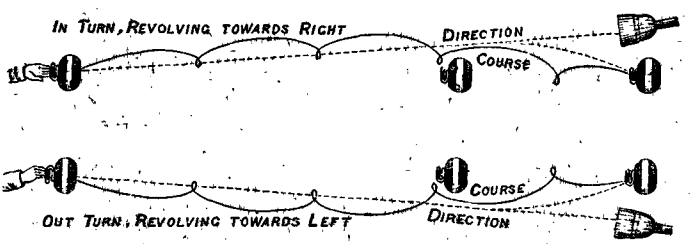


Position (fig. 14).

shown in the diagram (fig. 15), which they insert in all their annuals. We cannot say that we quite acknowledge the correctness of some things in the diagram. It would, e.g. require a stone to run on a pivot like a *peerie* to describe the curves shown on the way from the hand to the mark,

and the hand is applied to the stone in rather a dubious and delicate-looking fashion. But the diagram very clearly shows how it is possible to go round a guard and reach the stone behind it by 'elbow in' or 'elbow out' play as occasion may require.

There are many other shots impossible to straight play that can be taken by the help of the tworl or twist. In some cases, even when a straight shot can be quite effective, as in certain wicks or brittle shots, we prefer to put on 'the curl' as generally a more secure method. It is not simply in these points that a curler with a thorough command of the twist has an advantage over one who is ignorant of it. Ice is very often *biased*—oftener than not, at least in Scotland. By putting



'Out-turn' and 'In-turn' (fig. 15).

'twist' on the stone it can be made to curl against the bias altogether, while the stone of the straight player is helplessly at its mercy. It is even useful to know the twist when a straight shot has to be played, for in delivering the stone the player is apt unconsciously to give the stone a 'curl' of some kind, a curl that he perhaps does not wish to give it. This the practised hand can avoid. Just as in bowling, the skip is accustomed to indicate to the player whether the bias or lead of the bowl is to be 'in' or 'out,' and how much green he is to take, so in curling the skip often calls 'elbow in' or 'elbow out' as required, and points to where the player is to lay on for or design for, that with the curl the shot may be taken. Without such directions, if a player only knows what

is to be done, he ought to know what twist to put on, and how to negotiate the business for himself without any such directions.

(*i*) *The skip.*—The direction of the game in curling lies, as we have stated, with the skip. The rink consists of four, and while three are under authority, one—the skip—is absolute dictator. The office is one of honour and of responsibility.

'Elbow In' (fig. 16).

The skip, albeit a dictator, is appointed to his office by the will of his brother curlers. The essential qualification in their eyes is that he have a thorough knowledge of the game. Besides this knowledge of the game, there are many other qualities which a man must possess if he would worthily fill the office of skip. He must be a man of humour, delighting in 'quips, cranks and jollities.' With a couple of sour skips

at the end of a rink all the life goes out of the game. On the ice and at the social board it is required that a skip should be able to keep the fun going, to make a good joke, to tell a good story, to sing a good song, and although there has been no legislation on the subject of his attitude toward alcohol, it is more usual for him to be a disciple of Dr. Mortimer Granville than a follower of Sir Wilfrid Lawson. He must be

'Elbow Out' (fig. 17).

a man of imperturbable temper, never put out when a mishap occurs, never angry at his men, never blaming anybody but himself, in the hour of defeat unmurmuring, and in the hour of triumph generous. He must be just, honest, wise, cool, prudent, watchful, brave, courageous, blameless as a bishop, and, like a bishop, the husband of one wife. Such are some of the qualities which are needed in one who would be 'king

o' the core.' One other qualification we must refer to before we have done with him. He must be a man who can issue his orders in 'guid braid Scotch,' and who understands without the aid of a dictionary every word and phrase of the native Doric.

We may now finish our practical part of the subject by exhibiting a skip in action, directing the game in the language in which it is generally done. His first player being on the crampit, he does not give him any information as to what he wants him to do, but simply plants his besom-shank upon the tee. 'Ye ken what's wantit.' 'Oh! be cannie.' 'Cannily down the howe ice.' 'Jist smell the ring an' I'll no blame ye.' He is a good skip who begins with caution and all through plays a cautious game. 'A guid calm shot is aye the best.' So the first stone comes 'snoovin' up the howe.' It does not quite reach the tee, and thus become a 'perfect patlid'; it rests a foot or two in front of the tee, but it pleases the skip all the more, for 'It's in the way o' promotion.' It is now the turn of the opposing skip to direct. Had the first stone rested on the tee he would have called for its removal, but with caution he would have said, 'Draw to the face of this.' 'Just wittyr high, and no more.' He asks for 'a quiet draw.' Too much force and if he missed he is owre a' ice, too little and he places the first stone on the tee and himself lies a guard to the enemy. So he leaves that stone alone and with 'a quiet draw' he gets his stone beside it, none the worse that its line of promotion is not the direct line to the tee, for 'a sidelin shot' may prove better than a patlid in the end. To get his stone promoted and guarded is now skip No. 1's aim. So 'Jist crack an egg on this' is his direction; but the player has been too timid, and the stone lags on its journey, so the skip calls for the help of the sweepers. 'Gie him heels, gie him heels!' 'Soop him up, soop him up!' and by the aid of elbow-grease the desired work is done; his stone is on the tee and guarded. 'Weel soopit, lads.' 'Come up, Sandy, an' look at it.' 'Tak yersel' by the han'.' 'I'se gie ye a snuff for that.' These and

suchlike are the expressions of the skip's satisfaction. 'Rub off the guard, but dinna throw away your stone' is now skip No. 2's direction. But it is a raging shot, and missing the guard it is through the 'brough' like Jehu and awa' to the 'caff-neuk.' Skip No. 1 is jubilant, he is 'shot and guarded.' 'Big on.' 'Pile on the agony,' he cries, as his second player comes forward, and this is his demand for a double guard. 'Owre the hog and you're a great ane.' There! 'That's anither mote i' their ee.' 'That's a seed in their teeth,' and with a self-satisfied smile skip No. 1 steps aside to see how skip No. 2, with his second player, will deal with the situation. Two courses at least are open. He can curl round the guards and find the winner, or by an outwick on his first player's stone he can force that upon the winner and leave it shot. Then all the guarding of No. 1 is in his favour, and No. 1 is crestfallen. So the game proceeds. 'New efforts, new schemes, every movement demands.' The whole situation may alter in a moment, for it is a slippery game. The skip must be thoroughly alive; he must take in the position at a glance; his treasury of resources must be inexhaustible, and so must his treasury of words and phrases. The point-game gives only a selection of the movements which take place as the battle is fought around the tee.

'D'ye see that stane? Then crack an egg on't!'

Here is a selection of skip speech suited to these and other situations which may be heard any day in the progress of a bonspiel.

'A canny draw.' 'Tee-high weight and no more.' 'Oh,

be cannie.' 'Jist come creepin' up.' 'Come to the door o' the hoose.'

'O for a guard!' 'Owre the colly and ye're a great shot.' 'Lie back.' 'Guard the winner.' 'Dinna let him see that again.' 'Wait on him, men.' 'Watch that ane.' 'Keep him sweet.' 'Kittle him weel.' 'Block the ice.' 'Fill the port.' 'Come creepin' doun to the back o' this ane.' 'Lift him an ell and lie yoursel'.' 'Lie in the bosom o' the winner.' 'An inwick aff this and ye're shot yersel'.' 'Curl in to your grannie's wing.' 'Dinna flee the guard.' 'Break up the guards.' 'Through the port and ye'll find the winner.' 'Let him die.' 'Ne'er a kowe.' 'Besoms up!' 'See him through.' 'He's a collie, tak' him by the neck.' 'He's a great hog. Awa wi' him to Lipton.'

There are many other points which, as the game proceeds, demand attention. A double wick may have to be made, or the curler may have to *chuckle*—i.e. 'to make a succession of inwicks up a port to a certain object.' At times he must simply come up, in desperation to the skip's cry, 'A' the pouther i' the horn,' run out some stone with a bullet shot, straight and sure.

Rebutting [says Sir Richard Broun [1]] is towards the end of the game when the ice is blocked up, and the aspect of the game hopeless or desperate, to run the gauntlet through the same. The effect produced by a stone driven furiously among double and treble guards is often truly surprising. A thunderbolt of this kind, as in 'change seats, the King's coming' will often alter the *tout ensemble* of the game.

And the same writer thus describes another desperate movement:—

Cannoning, when the game has become complex, and the shot difficult to be taken in any other way, is the combined operation of making a guard butt off the winner, and follow in with your own stone—thus turning an instrument of defence into one of offence: viz. by striking it in such a position as that the guard shall take thew inner

[1] *Memorabilia*, p. 22.

at a slight angle, and so cause both to spin out, whilst the stone projecting these movements shall follow up and remain the shot. This, which is nearly in billiard terms walking a cannon, requires less dexterity than strength; and is very often effective play, for only strike strong enough, and fifty times to one the guard driven will not hit so dead upon the winner as merely to take its place—the smallest possible variations from the direct causing it to diverge. 'Come away, my boy! Don't spare the powder!' is always a jocose direction, exciting interest on both sides, and often from the opposite end of the rink have we seen the sole of our president's stone over his head when he had to *lift* up double guards, or take a shot (a favourite one with him) of this description, and been delighted with the consternation of the adversary, as—

> 'With full force, careering furious on,
> Rattling it struck aside both friend and foe,
> Maintained its course and took the victor's place.'

On such 'high-fated' blows victory or defeat in a curling match very often depends. It is in these final decisive moments that the skill, coolness, and courage of the skip are put to the test. The excitement is intense. A stillness as of death prevails when the fate of war depends on that last stone which the veteran warrior is about to deliver. He plays it. With breathless anxiety everyone watches its career. He has it. He wins the match. The besoms are flung high in air. Loud shout the victors. Then all leave the rink and gather round the social board where they fight their battles over again. The hero of the hour is toasted, and for generations to come his fame as a curler will be remembered in the parish or the club which he has exalted to honour by his marvellous deed.

HUMOROUS

Curling is a serious game, but it is nothing if it is not humorous. The curling season has been called 'the Saturnalia of Scottish life.' As if the ordinary humdrum arrangement of the elements were too monotonous a business, nature herself takes a humorous turn. On river and loch she builds 'crystal

brigs,' hangs icicles on the eaves, turns the raindrops into hail and the vapour into snow, stops the plough in the furrow, takes the feet from the horses, and plays pranks with John Frost over hill and dale. It is she that is mainly responsible for curling humour. The conditions are favourable: crisp exhilarating air, picturesque landscape, the slipperiness of the board, the enthusiasm of the players, the glorious uncertainties of the game, all combine to make that atmosphere of humour in which curling lives, moves and has its being. Now, it is impossible to bottle up this atmosphere and carry it away. It cannot be transferred to the pages of a book. Golf and curling are in this respect alike, and by a change of two words Mr. Balfour's remark [1] on the former is applicable to the latter game. 'The humours of *curling* can be but very imperfectly exhibited in description or illustrated by anecdote. . . . It is only on the *ice* that these humours can be studied: it is only by those who are familiar with the game that they can be appreciated.' We, therefore, attempt no analysis of the humorous in curling, and only try to outline very imperfectly some of its phases. It is found hidden in the very words of the players. A stone on the tee is a *patlid*, one on each side and the tee is a *fire*. A ridge along the ice is a *sow's back*, a lazy stone which grunts and settles down too soon is a *hog*, a stone which once down remains in spite of all attempts to move it is a *clockin-hen*. And so on. In the phrases, too, it is the same. Both poetry and humour

The eccentricities of attitude!

[1] Badminton *Golf*, p. 428.

are blended in the flow of metaphor which connects the beginning with the end of the game, and the game of to-day with that of centuries ago. Scottish metaphor, let us call it, for the humour of it is so distinctly Scottish that Sydney Smith could not possibly see it. The humour is of the *dry* quality, and no *extra sec* of Mumm or Heidsieck is half so delightful as it is to watch a pawky, cannie, old skip manœuvring a game of curling. 'Come cannilie creepin' doun.' 'Eh, man, ye're no up, but I like to see ye hoggin.' 'As guid's a better.' These two last are really rebukes, but the humour takes the sting out of them. When the stone goes raging over the tee and away to limbo the same gentle art covers the error with the remark 'It was *ance* shot.' 'Wha said ye couldna curl?' is his way of paying the highest compliment. He clothes his direction to remove the enemy with humour by saying—'Jist gie this a wee bit cuff on the cheek,' and he converts the blunder of removing the wrong stone into innocence by the remark, 'Ye've waukened the wrang man.' With playful allusion to the profession of each player, the fun of the game is carried on. From the tailor he asks attention to a fine 'pair o' breeks'; the doctor is requested to 'repeat the dose'; the lawyer is to serve 'decreet of removal' on one stone, and another he must take to *avizandum*. In the minister's case the stone, like the sermon, is 'weel-delivered,' and if a scriptural allusion is not out of place, it's 'a rale Ebenezer—a stane o' help.' When the self-satisfied gravedigger calls out to the skip, 'I think that ane 'll lie,' there is a bit of quiet grim wit in the response 'Aye, aye, man, nae fear o' that; they a' lie that ye pit doun.'

That *equality* which is one of the features of curling, and under which the humblest workman, by reason of his superior skill, is entitled to rule and direct the man of highest rank, is accountable for some of the humorous in curling. 'Cats dinna catch mice wi' mits on,' is the horny-handed son of toil's hint to the gentleman to take off his gloves. A worthy sheriff was one day playing to the direction of a stonemason, whom

he had sent to prison more than once for poaching, but to whom the sheriff had to look up when it came to curling: 'Noo, Shirra,' said the poacher-skip, 'dae ye see that stane?' 'Aye, Jock,' answered the Sheriff. 'A' weel, Shirra,' says Jock, pointing to the stone with his kowe, 'just gie that ane sixty days.' 'Fit your tee and play to direction, an' we'll sune mak' ye a man and a curler,' was the greeting of a corduroy skip to a scion of nobility who for the first time stepped upon the crampit. Lord Balfour, at the Jubilee dinner of the Royal Club, referring to the equality of the rink, said he had heard of it 'being very amusingly illustrated one day in a railway carriage in which a party were travelling the somewhat tedious journey to Carsebreak. One individual in the carriage had bought a morning paper, and while reading it turned to a friend seated in the other corner of the compartment and said, "Eh, Geordie, I see you are drawn agin a lord the day." Geordie did not say much in reply, but looking round he quietly remarked, "Weel, maybe I'll be the lord afore nicht."' More than once the Earl of Eglinton, that keen sportsman, figures in anecdotes of this kind. One must suffice. The Earl was one day called upon as skip to play out the leading-stone of his opponent. For a time the course of his stone promised success, but in the end it passed by, leaving the winner untouched. His third stone, Hugh Conn, watching in great excitement the approach of the gay-crested, silver-handled charger, was heard ejaculating at the various stages of its

Fisting the Tee.

progress, 'Bravo, my Lord! Bravo, my Lord!! Bravo, my Lord!!!. Oh, Lord, I declare ye wad miss a haystack!' The clergy generally are great supporters of curling, and many of them are adepts in the art. A young Ayrshire minister having one day in a match surprised everybody by a shot which required great strength, was saluted thus by a weaver: 'My certy, you're a bonny man to mak' a minister o'.' More than once a minister's curling capabilities have helped him in his candidature for a parish, and his people esteem him all the more when he can make a good appearance on the ice. They would rather have 'cauld kail het again,' i.e. an old sermon on Sunday, than lose his presence, as is evidenced in the story of the Cupar curlers whose minister had been discoursing on the faults and fate of Judas several Sundays before the frost came, and who wished to leave the Saturday evening festivities after the first day's curling. 'Na, na, doctor,' said they all, 'ye mauna gang awa' and leave us this way for sake o' the sermon. Jist gie Judas anither wallop i' the tow.' No doubt it was a stormy day, and the few who were present were curlers, but perhaps the past week's play had also to do with it, when, after the 'preliminaries' the Rev. Mr. Torrance one Sunday brought the service in Glencorse church to a close with this intimation: 'My friends, as the day is stormy, and there may be a danger of some of you being the worse for sitting in this cold church, I shall not detain you by preaching a sermon, but shall now dismiss the congregation; and, remember, we all meet on the ice to-morrow at eleven o'clock.' The late Dr. Aiton of Dolphinton is said to have summed up a funeral sermon on one of his elders, who was a keen curler, in the following way: 'And now, my friends, he is over the hog score, he is within the inner circle of eternity, and dead-guarded.' An Episcopal minister in the north was one day telling to his Established brother, whom he met on the ice, his grief at finding that a candidate whom he had been preparing for confirmation had gone over to Rome. The auld Kirk brother's apt and only consolation was this: 'You've soopit him past the tee.' When his pastor

went through the ice one day, a callous parishioner remarked, 'The minister's in for a gude steepin (stipend) noo.' Our glimpses of the clerical aspects of curling humour may close with the following: 'The Rev. Dr. Cook of Bathgate, than whom no minister more faithfully led his people on the right way, one day played a stone which, instead of good, did much harm. "What have I done, John?" called out the Doctor, as he saw his skip's agonising contortions of countenance. "Done, Doctor! what have ye no done? Ye've sent us a' to (the deil) thegither."'

The proverbial keenness of the curler has a great deal to answer for. Mr. Brown, the historian of the Sanquhar Club, tells a story which he believes to be true of a curler who sat by his fireside on the eve of a bonspiel. The cat was busy washing her face, and time after time pussy passed her fore-paw over her ear—a sure sign during frost of an approaching thaw. Irritated beyond endurance, the curler seized his poor cat by the hind legs, rushed to the door and dashed out her brains on the door-post, exclaiming: 'I'll learn ye to sit there and mak' thow.' The cat, poor thing, would see no humour in the situation, but the confusion of cause and effect in the man's anxious mind is irresistibly quaint.

Curlers are generally good husbands, and all the better for their curling. It has an excellent effect on the temper; it clears the brain and warms the heart, and so the ladies give it their countenance and encourage it in many ways. A wife has been known more than once to carry or wheel her husband's channel-stanes to a pond miles distant, when he was unable to do so himself, although able to play when he reached the ice. But the *tume aumbrie* has, on the other hand, caused many a poor woman to lament her guidman's devotion to the roaring game, and the wife of the Lochwinnoch wabster who, *à la* Dame Scott of Harden and the dish of spurs, drew from the steaming pot a boiled curling-stone, and placed it before her husband for his supper in presence of his starving children, no doubt served him right. An Ayrshire blacksmith has the credit of

THE WINNING SHOT: ATTITUDES OF VICTORS AND VANQUISHED

cleverly outwitting his better half, and getting a fortnight's curling, without such a Barmecide feast, by making a piece of cast iron red-hot, and when the gudewife came forward to 'gie him a chap with the forehammer,' as she sometimes did, the hissing bar 'flew into flinders' at the blow. 'Do ye no see, Jean,' said the blacksmith, 'that the frost has sic an effect on the metal that it breaks to bits when we begin to work it?' The gudewife was satisfied.

The keenness of Dannie F——, a Lanarkshire curler, and a late sederunt after the play, was punished rather amusingly by his wife, without any intention of the kind on her part. She had, in Dannie's absence, given the jambs a rich coat of tar to improve their appearance, and when Dannie slipped quietly home with a reef or two in the wind, he settled down to have a 'draw' before going to bed, with his back against one of the said jambs, and soon fell sound asleep. 'Come to your bed at once, Dannie,' called out his guidwife, as she awoke after midnight, and found her husband sleeping at the fireside. 'Come awa' to your bed, ye auld cuif, an' no' lie snorin' there.' Dannie made a desperate effort to get up, but found it was quite impossible, for he was firmly glued to the newly-tarred fireside. 'Preserve us a', Janet,' he exclaimed, 'this maun really be an awfu' frost. I doot there'll be news o' this yet. I declare to guidness if I'm no frozen to the very jamb.'

More humorous, if possible, than that of the rink is the atmosphere of the Curlers' Ha'.

> In canty cracks and sangs and jokes
> The nicht drives on wi' jaffing.

When the 'high jinks' of the Curling Court are practised under 'My Lord and his Officer,' and the old mysteries of the initiation are kept up, the mirth is simply uproarious.

Oyez: Oyez: Oyez. I defend, and I forbid, in Her (or His) Majesty's name, and authority of 'My Lord' presently in the chair; (1) that there shall be no legs o'er 'em, (2) no hands above or across;

(3) no supports on your neighbour's chair or on the table; (4) no private committees; (5) no rising up, or sitting down, or going to the door without leave asked and granted by 'My Lord'; (6) no touching the cup or glass but with the curler's right hand, which is understood to be every ordinary man's left; (7) every man his name and surname; (8) every breach of these articles a halfpenny and every oath a penny.

At each introductory 'oyez,' the officer rattles the 'stoup.' It is replenished with the fines which these enactments draw from all, for the meshes of the officer's net allow none to escape; and then the 'stoup is roupit,' and the proceeds spent in heightening the night's enjoyment. The humour of the feast, like that of the game itself, cannot be carried away, but we may set down here a few of the *toasts* and *sentiments* which call out the eloquence and the fun of a 'Beef and greens' banquet.

The Land o' Cakes and her ain game o' Curling.
The Tozee.
The Tee—without water.
The pillars o' the Bonspeil—Rivalry and good-fellowship.
Curlers' wives and sweethearts.
Oor ain King, John (Frost).
May the frost aye stay and the thaw keep away.
Fair play and just-ice.
Gleg ice and keen curlers.
Canny skips and eident players.
A steady e'e and a sure han'.
Here's to the game we lo'e best.
The broom an' the channel-stane.
Face to face on the ice, and hand-to-hand throughout the world.
May the curler's evening diversion bear the next morning's reflection.
May we ne'er lie a hog when we should be tee-high.

Noo fill a bumper to the brim
And drink wi' three times three, man:
May curlers on life's slippery rink,
Frae cruel rubs be free, man.

Or should a treacherous bias lead
Their erring course ajee, man;
Some friendly inring may they meet
To guide them to the tee, man.

REV. DR. HENRY DUNCAN.

'I think that should find her!'

GLOSSARY OF CURLING TERMS.

A' the curl.—Just what the skip wishes.

Angle guard.—A stone which obliquely covers one or more stones.

Baugh ice.—Soft, dull ice.

Bias.—An inclination on the ice.

Block the port.—Place a stone to prevent the next getting through.

Board, Boardhead.—The space within the 14 foot circle.

Bonspiel.—A game between clubs or districts.

Brecks.—Two stones alongside of each other.

Brittle shot.—*Vide* p. 358.

Broom kowe or cowe.—Besom made of sprigs of broom tied together. *Vide* p. 346.

Brothered.—Initiated with secret 'word' and 'grip.'

Brough.—A circle round the ice.

Bullet shot.—Stone played forcibly and straight.

Bunker.—A prominence on the ice.

Burnt stone.—A stone that has fouled and has to be put off the ice.

Cannoning.—*Vide* p. 370.

Channel-stane.—Curling-stone, so-called because in olden time it was simply a boulder from the river.

Chap and lie.—*Vide* p. 352.

Chip the winner.—*Vide* p. 352.

Chuckle.—*Vide* p. 370.

Circle.—The ring drawn round the tee.

Clockin-hen.—*Vide* p. 372.

Coax.—To sweep the stone up to its destination.

Cock, cockee.—The tee.

Colly.—The hog score.

Core.—Rink or company.

Cover.—To guard a stone or position.

Crack an egg.—Gently touch.

Crampit.—*Vide* p. 347.

Creep.—Applied to the slow motion of a stone cautiously played.

Crisp.—Old name for crampit.

Curl.—The word is specially applied to the twist described pp. 363–366, although used in reference to the general game. 'A' the curl.' *Vide supra.*

Curlers' fare.—Beef and greens.

Dam.—Sheet of water for curling, *v.* To stop up.

Days.—'Gie 'm days,' Sweep the stone.

Dead-guarded.—Completely guarded.

Delivery.—The act of sending off the stone from the hand.

Design.—*Vide* p. 365.

Die.—Stop, 'Let him die,' 'Let the stone stop—do not sweep it.'

Director.—Skip, also *driver* and *doupar* in some old records.

Double-guard.—One guard in front of another.

Draw.—*Vide* p. 351.

Drive.—Come up with force.

Drug ice.—*Vide* Baugh.

Dry.—A seam running through a stone which renders it liable to be broken.

End.—Head. If a skip takes the end in case of danger his stone played does not count.

Fill the ice.—Place stones on the way to the tee.

Finger-stone.—Earliest form of curling-stone.

Fit the tee.—*Vide* p. 361.

Fled.—Passed, as *fled* the tee.

Flee.—'Dinna flee the guard.' Don't avoid it.

Fore-han'.—The first player or *lead.*

Gleg ice.—Keen good ice.

Gogsee.—Tee.

Grannie's wing.—To get under grannie's wing is to angle off one stone and rest behind another.

Grip.—One of the secrets of the initiation ceremony.

Guard.—To lay a stone in direct line so as to protect another.

Hack or hatch.—Hollow cut in the ice from which player delivers his stone. *Vide* p. 360.

Hair o' pith.—A good deal of force.

Hands up.—Stop sweeping.

Hap them up.—Put on more guards.

Head.—That portion of game in which both parties play up all their stones, and they count the winning shot or shots.

Heels.—'Gie'm heels,' i.e. sweep the stone.

Hin'-han'.—The last player.

Hog.—The distance line which if stones do not pass they are set aside.

Home.—Canadian term for boardhead.

Hone.—To polish the sole of the stone. *Vide* also p. 345.

House.—The space within 14 foot circle. *Vide* Boardhead.

Howe.—The middle of the rink *hollowed* as course of the stones.

Initiated.—*Vide* Brothered.

Inwick.—*Vide* p. 351.

Kittle.—Difficult, *v.* To sweep a stone keenly.

Kuting.—Old term for curling.

Lay on for.—Design for. *Vide* p. 365.

Lead.—*Vide* p. 358.

Lift.—To move a stone forward.

Ne'er a kowe.—Do not sweep.

On the button.—On the very tee.

Outwicking.—*Vide* p. 352.

Parish.—*Vide* p. 348.

Patlid.—On the very tee.

Pile on the agony.—Put on more guards.

Port.—An opening between two stones.

Pouther.—Strength applied to the stone in delivery.

Promote.—Move a stone forward.

Rack.—*Vide* Rink.

Raising.—*Vide* p. 352.

Rebutting.—*Vide* p. 370.

Red the ice.—To break up the guards and expose the tee or the winner.

Rest.—To draw up to an object so as not to pass it.

Ride.—To carry out a stone.

Rink.—The portion of ice on which the game is played. Also the team of four players.

Roupin' the stoup.—*Vide* p. 378.

Shot.—The stone that counts: any stone played.

Sidelin shot.—A stone on either side of the tee.

Sole.—To deliver the stone on the ice.

Souter.—To score a love-game; not to allow opponents to score, as certain souters of Lochmaben are said to have done.

Sow's back.—*Vide* p. 372.

Skip, Skipper.—The director of the game, *vide* pp. 366–370.

Stoup.—*Vide* p. 378.

Striking.—*Vide* p. 351.

Stug.—A shot gained by accident.

Swing.—*Vide* p. 362.

Tak' your wull o't.—Have it away.

Take a yard off your last.—Do not play quite so strongly.

Tee.—The winning point in the game.

Tee-ringer.—*Vide* p. 348.

Trickers.—Used in old time instead of crampit.

True.—*Vide* p. 343.

Trust to the besom.—Let the stone be swept as desired.

Twist.—*Vide* p. 363.

White Ice.—*Vide* Howe.

Wick.—To make a stone strike at an angle off another.

Winner.—The stone nearest the tee.

Wittyr.—*Vide* Tee.

Note.—The subject of curling will be found treated in a more elaborate manner by the same writer in the Jubilee Volume of the Royal Caledonian Curling Club—'The History of Curling,' Edinburgh, 1890. To Mr. Douglas, the publisher of that work, and to the Royal Club we are indebted for the use of a few of the plates in the volume. Our thanks are also due to Mr. Elliot Lockhart and Mr. Waterston, publisher, for the Drummond coat-of-arms (p. 331), and to Mr. Roderick Anderson for assistance with photographs.

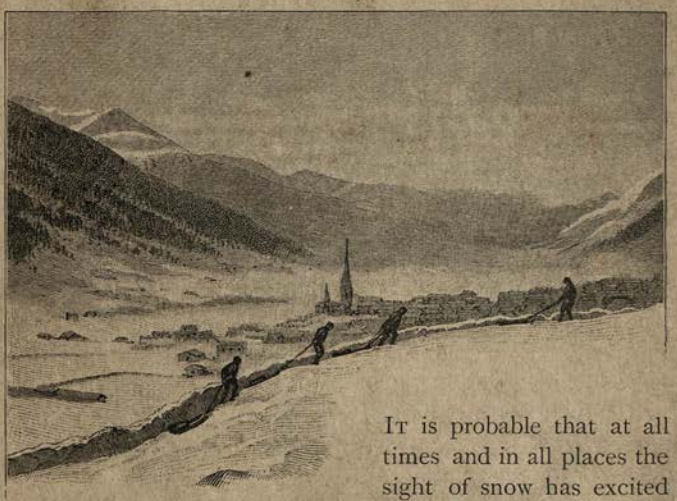
TOBOGGANING

BY

ORMOND HAKE

TOBOGGANING

By Ormond Hake



The Ascent of Buol Run.

It is probable that at all times and in all places the sight of snow has excited in the mind of man a desire to cross its surface, and has stimulated his inventive powers to discover some contrivance which may enable him to do so with least trouble and most comfort to himself. It is even so in the animal kingdom if we are to believe the old German legend, which tells us how 'Brer B'ar' was captivated by the same desire, for we are assured that whenever the bear came to a snowy slope, he just

sat down upon himself and slid; and thus in the constant pursuit of a practice which delighted him, he rubbed down his tail to the stump which is now familiar to us. Dana reports that he saw otters glissading for their amusement down the snowy hillsides of Newfoundland. I was astonished, the other day, to learn from a friend[1] who was staying in a house near Padua, that even on those Lombard flats the little boys, as soon as an exceptional frost has sufficiently frozen their long canals, will bring out their machines—very elegant machines indeed, and not at all unlike the Swiss 'coasters'—and, with the help of poles, will travel far across the frozen waters, content to earn a winter's ride, although there is not a hill in the whole neighbourhood. What English boy is there who during some hard winter has not made a raid upon his mother's tea-trays, and, with enormous difficulty and intense delight, sailed down over the December slush which covered the hillside nearest to his house?

But I am anticipating. The word 'toboggan' is supposed to have originated among the Indian tribes of North America. It was probably used exclusively to designate the small sledges employed by the Indians as a means of transporting their provisions from camp to camp. It is impossible to state exactly when tobogganing first became known as a *sport*, but tradition says that sledging, as a form of amusement, was practised by the Coughnawaga Indians, a civilised tribe living in the neighbourhood of Ontario, Canada, long before the sporting world had learned the meaning of the terms 'coaster' and 'bob.' For many years tobogganing has been looked upon as one of the chief amusements in Canada, and large numbers of people used to flock there to enjoy this sport in the only country in which it was carried on in any organised manner. But since 1885 the Americans have largely imitated their Canadian neighbours, and many slides have been set up in the United States, while in Switzerland tobogganing has now reached such a high stage of development that the sport there is no longer

[1] I am greatly indebted to this friend for valuable assistance in the compilation of this article.

the simple old pleasure-going affair to the mere lover of movement, but has become instead a very complicated concern indeed, and the races of the present day involve a system of handicapping which is quite absurd in its difficulty.

Tobogganing over frozen slopes is, of course, the only thing worth description, and I do not propose to dwell on artificial 'runs' built at catchpenny exhibitions, or the poor imitations of the original sport on greased declines, which are found at some of the American resorts at a time of the year when the mercury is far above freezing-point. These are possibly successful from a financial point of view, but they do not come fairly within our scope.

Toboggan runs are, generally speaking, of two sorts: Ordinary high-roads having a suitable gradient, or runs which are especially made for the purpose. These latter, for evident reasons, afford much greater facilities for properly conducting races, such as a regular start and finish, timing, &c.

The three best organised tobogganing centres are Canada, America, and Switzerland. A large proportion of the year can be given up to the sport, and this is a desideratum for good work; for, though the merest novice can slide downhill on a toboggan and so secure good exercise and much enjoyment, yet, as in other sports, practice is essential if one wishes to excel. This need of practice is, of course, less felt on the majority of 'runs' in America or Canada, where the slides are usually straight, but on the two best known runs in the Swiss Alps, of which more hereafter, the drop is so considerable, the course so winding, and the bends in many places so sharp, that good time is made only after much experience, and even the skilful rider is liable to 'come a cropper' at some particular corner, which has, at the critical moment, developed an ugly knack of upsetting all carefully made calculations as to pace and balance.

As the American slides are built after the pattern of those in Canada, a description of one, such as the slide belonging to the Montreal Toboggan Club, or that of the Essex County

Toboggan Club at Orange, New Jersey, will suffice to give the reader a general idea of them all. The start is made from a platform at a considerable height from the ground; from this two or more wooden chutes, on a steep decline, are carried on trestles until the ground is reached. The chutes are side by side and are from two to three feet in width, with sloping sides of wood or snow, the trough being filled in with snow varying in depth from half an inch to six inches. This is constantly sprinkled with water from a hose, and a surface of smooth ice is thus formed.[1] As stated above, the slides are usually straight, but in the slide belonging to the old Tuque Bleue Toboggan Club in Montreal there was a horseshoe turn of about 200 feet at the finish, after a straight run of about 600 feet.

The slide of the Montreal Toboggan Club was bought up by the old Tuque Bleue Club, who built on its site one of the finest slides that could be made. It was situated at the south-west corner of Mount Royal, and began with a natural descent of about 100 feet, of which a length of 75 feet was almost perpendicular; the slide then continued for about 1,200 feet on the level. For those to whom this slide was full of terror two artificial chutes were built alongside. Unfortunately the ground occupied by the slide has now been divided into building plots, and the club have had to seek another site on the New Lacrosse Grounds, where a slide is to be built with a straight run of 700 feet and a turn of some 400 feet, similar to that of the old Tuque Bleue run, the great popularity of which was in no small degree due to this peculiar finish.

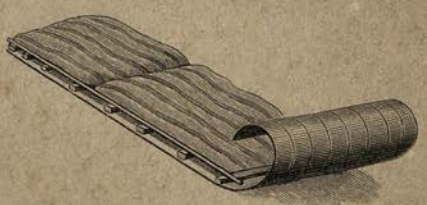
The slide at Orange is about 1,000 feet in length, with an average drop of one in nine. This gradient, however, is not constant throughout, as the run begins with a sharp decline for a few yards, which gives the toboggan a good start, then follows

[1] The managers of the slide at Orange are not dependent upon a fall of snow for the preparation of their chutes. As soon as the temperature falls to freezing-point water is sprinkled on the slide till it is frozen to the depth of half an inch, this thickness of ice being adopted by the club as the minimum for safe and good tobogganing.

TOBOGGANING AT MONTREAL

a level for a short distance over which it travels from its former impetus ; then another sharp fall and another level, and so on till the bottom is reached, where a heap of loose hay absorbs all superfluous pace as well as the rider. This plunge into a mass of hay stops the toboggan effectually, but not too suddenly, and is productive of any amount of mirth at the expense of the man who holds the first seat, and who, as he plunges into the hay, is commonly said to go 'egg-hunting.' At the foot of the run is the Club House, which is luxuriously fitted up with dressing rooms, reception rooms, &c. &c., and here members receive their visitors with a hospitality which always makes an invitation to the club most welcome. The whole site is lighted by electricity, and on gala nights the beauty of the scene is enhanced by coloured lamps. This course has been covered in nine seconds, that being at a rate of more than seventy miles an hour !

A straight run such as those described usually carries a toboggan for two, four, or even a greater number of passengers, one of whom, at the back, steers with his foot. On the other hand, a steep run with many sharp bends, such as those at Davos and St. Moritz in Switzerland, forbids an extra load on account of its being almost impossible to take off pace at points which cannot be run at full speed.



Canadian 'Toboggan.'

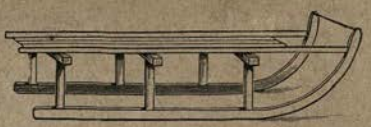
The toboggan most frequently used is the old Indian machine. This is made of two pieces of thin ash board fastened together with thongs of deer hide. The boards are turned up in front and are secured by a cross-piece at the end. These toboggans are very light, but very strong and durable. Two or three steel runners are now often added, and they considerably increase the speed of the machines. A toboggan eight feet

long and eighteen inches in width carries comfortably four passengers, and when fitted up with cushions and side rails or straps, is by no means uncomfortable. Formerly 'bob-sleds' were used to a considerable extent for natural runs down the hillsides, but the use of them resulted in so many accidents that they are now seldom seen.

The 'schlittli,' which was, until the last few years, almost

exclusively used on the Swiss runs, is quite unlike the Canadian carriage, though all sorts of machines are designated by the English as 'toboggans.' 'Coaster' is the correct name for the type used in the Swiss Alps. It is much more elaborate in its construction than the Canadian machine, being built with two runners of wood, which are shod with narrow strips of steel, and support a light framework, also composed of wood, on which the rider sits, with his feet forward, at the

height of about five inches from the ground. In old days the 'schlittlis' were all formed upon very much the same pattern, but of late years they have been built in many different styles, to suit the eccentricities and aspirations of the sporting British mind. Moreover, as I intend to show further on, innumerable varieties of toboggans have been introduced into the High Alps of Europe, for the most part superior machines, such as 'Americas' or 'pig-stickers,' toboggans proper, bob-sleds, and patents.



'Schlittli,' or Swiss 'Coaster.'

It is almost certain that the early inhabitants of the Graubünden mountains, as well as the Indians in North America, felt the necessity for some machine to enable them to traverse the snow, and fell to work to create a vehicle, maybe not as graceful nor as swift as that which we now possess, but yet capable of combining the pleasant with the practical. In a very out-of-the-way valley in Tyrol, Montafun, there still is made, even in the present day, a very primitive form of toboggan, whose runners are composed of horses' ribs, and it is pronounced extremely swift.

In 1877 the sport may be said to have had its birth at Davos am Platz, in the canton of the Grisons. Very few English came to, or had ever heard of, the small Swiss health resort, lying over 5,000 feet above the level of the sea. Those who did come took up their winter quarters in the Hôtel Belvedere, and, with the natural instincts of their nation, at once cast about for any available means of amusement wherewith to render more agreeable the long months of winter and enforced idleness which lay before them. They found what they called the 'toboggan'—a simple little wooden coaster, adorned sometimes with the coat of arms belonging to the family who owned it, and ridden chiefly by the school children down the steep paths in this valley, or by the older men when they went for some long tramp—to Klosters, perhaps—where

the post road had enough incline to make it worth their while to pull a toboggan along with them, and then descend upon it. The 'schlittli' was also, and still is, very much used as a means of conveying small hand luggage. I may mention here that the women of the country never indulge in the sport after their childhood. They consider it trivial and undignified.

The Englishman then in 1877 saw, and at once desired, the 'schlittli.' He begged, he borrowed, or perhaps even he stole it. It didn't occur to him in those primitive and pleasant times to have a schlittli made for himself. I recollect vividly a certain small green machine with the initials 'P. B.' painted upon its back—a machine which was coveted and appropriated by each of us in turn. Nowadays, no doubt, one would not mount 'P. B.' for love or money, but in 1877 it appeared to have the wings of an eagle, and we flew upon it, three or four of us at a time, so precious was its possession.

The 'Davos Run' in those days was a narrow path which formed the approach from the post road to the Hôtel Belvedere. At the foot a small aspen tree grew and flourished, beneath whose trembling branches all our first 'spills' took place. The height of our ambition then was to get up enough speed in our descent to enable us to reach a certain telegraph post which stood about where the Victoria Hotel now stands. We guided entirely with our heels, the more timorous amongst us even planting the whole flat of their feet upon the ground as they descended. A 'tailing party' was the highest point to which our imagination then soared. We scraped together as many schlittlis as we required, tied them all in a line behind a two-horse hay-sledge, and drove to Wolfgang in solemn procession, each seated on his or her 'coaster.' We then loosened our machines and made our way down to Klosters, tobogganing where the road promised fair going.

That was the first year, and it was then that the modest seed was sown which was to bear so large a fruit. Each succeeding year brought more people, more imagination, more

ambition. Henceforward the Englishman came to Davos aware that the sport of tobogganing existed. He insisted on acquiring a horse of his own, and would no longer suffer himself to be mounted bareback upon a borrowed steed. He created a superior machine with a saddle. He heightened or lengthened the runners, he even added iron weights—weight being a very important item in the matter of speed. He no longer guided with his feet, but with two iron-pointed sticks, about 8 inches long, which he held in either hand. He dis-

A Tailing Party.

covered that there were possibilities beyond the Belvedere path, and wherever in the narrow limitations of the snowed-up valley a steep path could be found, there too was to be seen the energetic Englishman, pulling his toboggan up by its string, and gaily, and often recklessly, descending upon it.

The sport of tobogganing was now fully launched. Competition, of course, followed, at first among the members of a few hotels, afterwards, according to the process of development which we shall describe in a future paragraph. An

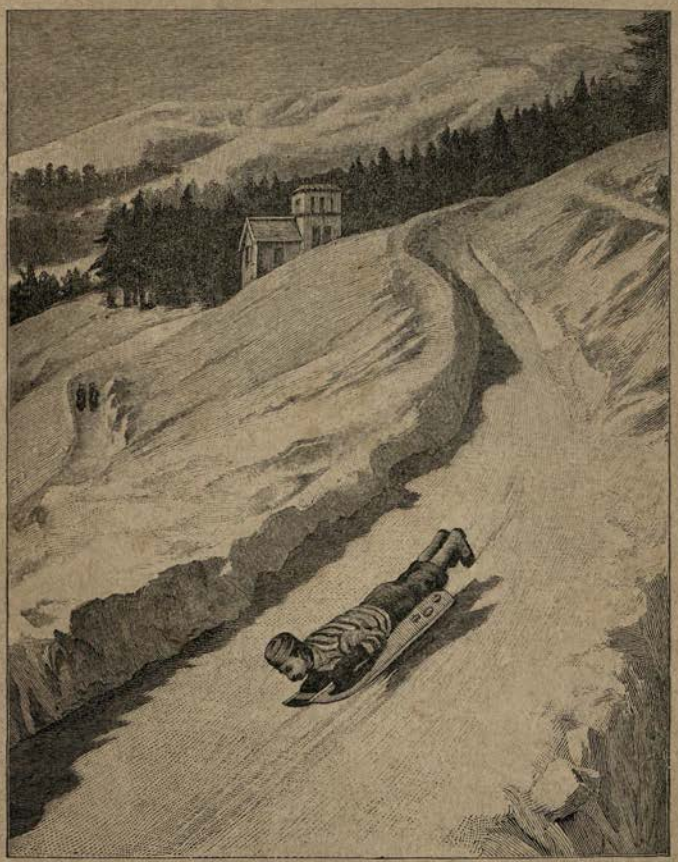
element of danger, too, was added to the business, without which it seems that no sport for Anglo-Saxons can be carried on.

The 'Schlittli' or Swiss 'Coaster.'

The old smooth hay-track, and the easy, but deeply rutted post road, did not fulfil all the aspirations of young people bent on adventure. A long footpath which leads from an old forest on the hillside above the Hôtel Buol was appropriated to the exercise. Corners were contrived, and ingenious turnings, in its somewhat precipitous descent. Snow was banked against the sides of this path to left and right, so as to give the greatest possible opportunities of speed in riding. The course was cleared after a snowfall, scraped, polished, and daily engineered. By slow degrees, the artificial tobogganing road, known as the Buol Run, came thus into existence. It owes its present form to three gentlemen—Mr. G. Robertson, Mr. Harold Freeman, and General Haig. The first of these brought traditions from St. Moritz, where tobogganing on artificial runs had been developed early in the eighties. The second, Mr. Freeman, has watched over all its interests during several years, bringing it always to a condition of greater efficiency. General Haig, in 1890, finally engineered a road from a considerable distance up the hill, which gave a whole length of 1,000 yards.[1] Those who ride upon this run must now obey strict rules, and must attack the problem at the peril of their bones. A bad fall is no improbability, for to ride

[1] Last winter (1890-91) it was shortened to 921 yards.

the Buol Run, at the height of one's speed, on a raceday, and at the same time to keep one's balance in rounding the steep



The Buol Run (Davos).

banks of soft snow turned to ice by water poured upon the surface, is no easy task for experts, and is almost an impossibility for reckless tiros. I have seen a practised rider round

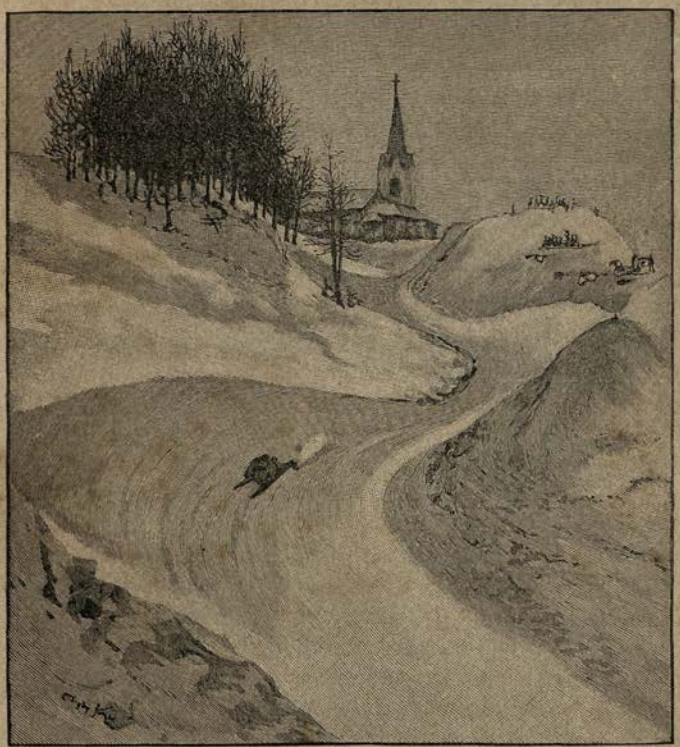
a corner, with the off runner of his toboggan skirting well over the top of the ridge, and a fall of some thirty feet below him, and this while going at the rate of forty miles an hour. The records of tobogganing have been in fact darkened by no few instances of very ugly, and sometimes almost fatal, accidents.

What has here been written about the Buol Run at Davos applies with even greater force to the Cresta Run at St. Moritz, which may well compete with a steeplechase course for its variety of incidents and frequent dangers. But while describing the gradual development of these local and artificial runs, we have anticipated the course of time, and must return to the point which really determined the whole history of the sport in Central Switzerland.

As we have already intimated, it is probable that tobogganing, as a sport, would not have attained to this high point but for the foundation of an annual race, open to competitors of all nations. In the winter of 1882–3, it occurred to three English gentlemen at Davos—Messrs. J. A. Symonds, M. Horan, and P. Broadbent—that it would be interesting to invite tobogganers of all descriptions, including the native Swiss, to race upon the road to Klosters—a course of slightly under two miles. They guaranteed sufficient money for four prizes; and their efforts were seconded in a very gratifying manner by the tobogganing public. Twenty-one competitors, among whom were natives of England, Germany, Holland, Switzerland, and the English Colonies, sent in their names. The race was run upon Feb. 12, 1883, and the first prize was won in a tie by an Australian gentleman, Mr. G. Robertson, and a Swiss from Klosters, Peter Minsch. It is noticeable that the winners of the remaining prizes on this occasion were all Swiss. In this way the international character of the event was fully established; and the International Toboggan Race, which has since formed so important a feature in the winter of the High Alps, came into existence.

Up to last season (1890–91) the prizes have been pretty equally divided between Swiss, English, and Americans, Peter

Minsch keeping a post of prominence, while the Anglo-Saxons, through their energy, spirit, and diligence in training, have taken the larger number of prizes on the whole, and have won the first place on nearly all occasions. In the last Inter-



The Cresta Run (St. Moritz).

national Race (in January 1891), however, a young Dutchman, Mr. Gouda Quint, headed the list. On one occasion (in 1888) the prize-winners included two Englishmen, one Australian, an American, a Swede, and a Swiss.

Great excitement prevails about the time of the International

Race. Since it is a post road, the quality of the course varies greatly, according as fresh snow may have fallen or the old snow have been worn into ruts by traffic. Sometimes it is smooth and icy, at another time rough and heavy. Considerable art in the management and choice of the toboggan can therefore be displayed, and much uncertainty attends the final exercise of strength and skill. The race is run in a single heat, on account of the rapid changes to which a snow course is exposed when the action of the sun has begun to make itself felt. The competitors are started at intervals of a minute. Bumping has been suggested, but it is found to be impracticable, owing to the impossibility of umpiring the whole course.

In the year 1884–85, seeing that international racing had become a permanent institution, Mr. J. Addington Symonds presented a silver Challenge Cup to be added to the first prize. At first this was offered under the condition that, if it were won two successive years by the same man, it should become his property. The conditions have since been altered, and the cup is now the inalienable property of the International Toboggan Racing Club, the winners' names being inscribed upon an ebony stand.

Next, the English colony at St. Moritz in the winter of 1885 established a Grand National Toboggan Race open to all competitors. The first race was won by an Englishman from Davos, Mr. C. Austin. This Engadine race is not run upon a post road, but on a scientifically constructed course of smooth ice with some precipitous 'leaps' and many ingenious turns and corners. Owing to this circumstance, and to the keen interest evoked by the generous rivalry of the two neighbouring valleys, tobogganing, considered as a sport, received an immense impulse.

Thus far we have only had regard to the old Swiss coaster or 'schlittli,' upon which the tobogganer rode sitting. It soon became apparent that some advantage might be gained by adding weight to this machine in front or by riding it in a prone position, headforemost. Questions now agitated our winter colonies as to what liberties in racing ought to be permitted,

and rules, which have only recently taken a settled shape, began to be keenly discussed. The matter was complicated in the year 1887–88, when Mr. Child, a bold and expert American rider, gained the right to compete upon the Clavadel course with his 'pig-sticker.' It was immediately perceived that this long, low, swift machine, upon which the rider lay sideways,

'America' Toboggan ridden headforemost.

guiding mainly with his foot behind, could 'walk over' almost any course against the old Swiss 'schlittli.' Accordingly, the whole tobogganing world began to have 'Americas' built, and the merits of spring runners were much canvassed. Next year, another American, Mr. S. Whitney, introduced a second innovation. This was the so-called 'bob-sled,' composed of two machines of the 'pig-sticker' type, a long one to recline upon,

'Bob-sled.'

and a shorter one in front to guide by, the two being connected by a board which works freely upon swivels so as to allow of turning rapidly from side to side or taking corners.

It soon became apparent at Davos that the International Toboggan Race could not exist upon its established lines if 'Americas' and 'bob-sleds' competed on equal terms with the Swiss 'coasters.' Accordingly, in 1889–90, it was decided to hold in future two races, the one for Swiss 'coasters' only, re-

taining Mr. Symonds's Cup for first prize, the other open to all machines, with a Challenge Shield called the Symonds Shield, in compliment to the gentleman who had done so much towards establishing the sport.

By the several steps we have described tobogganing has, in the course of the last twelve years, become a sport offering very considerable varieties of amusement to amateurs, both as regards the nature of the machine used and the qualities of the course preferred. Those who delight in the exercise keep vehicles of different sorts, and, according as they mean to ride upon an artificial run or a post road, choose the machine which experience shows to be best suited to the purpose. Skilful riders are also aware that spring runners work better on a smooth ground, while the old flat runners cut more surely through an inch or two of freshly fallen snow. These are but general indications of the scope given to art and science in this exercise. A few details follow regarding some of the races at Davos and St. Moritz, which will give an idea of the maximum of speed and the rival merits of different vehicles.

To begin with the *International Race.* It must be remembered that the course is a post road, the length 200 yards short of two miles, and the surface liable to great alterations. In the year 1883 the best time made (by Mr. G. Robertson and Peter Minsch) was 9 min. 15 sec. But the road on this occasion was extremely heavy, owing to a recent fall of snow. In 1884 Peter Minsch won in 6 min. 35 sec. He was followed by two Englishmen and a Swiss, in 6 min. 40 sec. In 1885 an Englishman, Mr. Dale, made the fastest time, 6 min. 35 sec.; Herr Minsch followed with 6 min. 36 sec.; Mr. Harold Freeman with 6 min. 40 sec. In 1886 Mr. G. Baillie Guthrie won in 5 min. 47 sec.; Herr Minsch second in 5 min. 48 sec.; Mr. Freeman third in 5 min. 50 sec. This year was remarkable for speed and for the closeness of the running. In 1887 Herr Minsch made the best time with 6 min. 43 sec.; Mr. Guthrie second with 6 min. 45 sec.; Herr Vetsch third with 6 min. 51 sec.; Mr. Freeman fourth with 7 min. 2 sec.

Up to this date the competition had been only open to Swiss schlittlis, but in the year 1888 toboggans of the American 'pigsticker' type were admitted, and Mr. Child won the first place, riding headforemost. Unfortunately for the purposes of comparison, the course had to be altered on this occasion. A new run, at Clavadel, just fifty yards short of a mile, was chosen, and the race was run in two heats. Mr. Child's total was 6 min. 3 sec.; Messrs. Austin and Freeman followed (tie) in 6 min. 6 sec.; Herr Minsch came fourth in 6 min. 11 sec. In 1889 the old Klosters course was once more taken for the International race, and it is probable that it will not again be abandoned. This year Mr. Whitney won with a very fast 'America' in 6 min. 28 sec., the state of the road being particularly unfavourable to speed. In 1890 the two races to which we have already referred were established.

'America' Toboggan.
(Winner of the 'Grand National,' 1888.)

To proceed to the *Grand National* at St. Moritz. Here the race is run upon an artificially constructed course called the 'Cresta Run,' three-quarters of a mile long. The prizes are awarded to the best totals on three heats, with a separate prize for the fastest time. We append particulars for the years 1887, 1888, and 1889. This race is open to all vehicles and every mode of riding.

In 1887 the race was won by Mr. Baillie Guthrie in 6 min. $8\frac{3}{5}$ sec.; Mr. Bertie Dwyer was second in 6 min. $8\frac{3}{5}$ sec.; Mr. Freeman third in 6 min. 15 sec.; Mr. Bulpett fourth in 6 min. 14 sec. The fastest time was made by B. Dwyer in 1 min. $58\frac{3}{5}$ sec. He was only twelve years of age, and sat so lightly on his toboggan that he is reported by spectators to have parted company with his steed for a space of twelve yards, landing upon it again, and continuing his course in a most spirited fashion. In 1888 Mr. Cohen was first in 6 min. $39\frac{4}{5}$ sec.; Mr. Freeman second in 6 min. $44\frac{4}{5}$ sec. The

fastest time was made by Mr. Freeman in 2 min. 12 sec.[1] Quoting from the local paper, I must here add that 'Mr. Cohen rode an "America" (sitting), this being the first time that any machine except a Swiss coaster was ridden in this race. Mr. Watt rode a Swiss toboggan with spring runners; Mr. Wilbraham rode a Swiss headforemost; and the rest of the competitors rode ordinary Swiss coasters in the usual sitting position.' In 1889 Mr. Vansittart took the first prize, riding a 'Canadian,' 4 min. 41⅗ sec.; Mr. Cook the second in 4 min. 44⅘ sec., riding an 'America.' The fastest time was made by Mr. Vansittart in 1 min. 30⅗ sec.

The Cresta Run is most elaborate in its construction, and the 'Church Leap' and 'Shuttlecock Corner' are names which strike terror into the hearts of the timorous. I may here mention that the racing spirit is also very strongly developed amongst the ladies who visit Davos and St. Moritz. They frequently join in the men's races, and make excellent times.

In addition to the international races, innumerable small races are run upon the Davos and St. Moritz runs. Suffice it to say, they are always attended with great interest by a large crowd of spectators.

But I must not close without giving to my readers some idea of the poetry of tobogganing. The sensation created by a swift descent through a snowy, and sometimes moonlit, scene is quite unique. There are so many points which combine to charm the imaginative soul. Night is the time to toboggan—one of those Alpine nights when the moon and stars combine to share their glittering splendour with the frost crystals on the snow. The air is very cold but intensely still, as though all the mountain world were frozen into silence. The roads are deserted and hard, and the runners of one's toboggan glide very easily across their icy surface. There is nothing, perhaps, more pleasant in the winter life at Davos than to toboggan down from Grünli Bodeli to Klosters on such a night as this. One is sure to be alone, and not troubled by any desire to

[1] On this occasion the Cresta Run was a mile in length.

race or have one's time taken. The post road winds at first through thick forest, but suddenly emerges from the shadow of the trees upon a broad open space over which the eye can wander far down the steep decline to the Prätiga. There is a great peace about the snow-imprisoned valley when flooded by the white light of a winter's moon, and it is difficult to realise that the scattered lights of Klosters, which seem so small and far away, will be reached in the space of a few minutes. Above the valley rise the tall and jagged ridges of the Rhatikon mountains, and beyond them the huge broad snowfields of the Silvretta glacier bare their sloping backs to the still night air. Perhaps even the most impetuous tobogganer will be content to slacken speed at this point, and look out upon a scene so charming, before darting forward into the shadows of the forest which lie ahead of him. The rapid swishing sound made by the runners of his toboggan is the only thing which breaks the stillness of the mountain night, and the thin wind which whistles in his ear is heard by him alone, as it is caused by his body breaking against the frozen air. The ride is over all too soon. You seem to have but just started up there in the pine-woods, when you arrive down in the narrow streets of Klosters, amongst the habitations of men, just two miles below.

I must record two exceptional rides. The first was in the autumn of 1886. The 'winter-snow' had fallen very early, and was followed by a period of thaw and heavy rain. Then came severe frosts, and the result was that the roads over the higher passes were still kept open and in excellent condition for sledge traffic and the purposes of the tobogganer. Mr. Harold Freeman went on a visit of exploration over the Fluela Pass (about 7,300 feet above the level of the sea) on November 9, and returned with the intelligence that both sides of the pass were fit for running on. On the 11th, at 9 A.M., we started in an open sledge with our toboggans, and drove to the Fluela Hospitz. A little beyond the head of the pass we got out of our sledge, mounted our toboggans, and had a

magnificent and almost uninterrupted run over the road to the village of Süs in the Lower Engadine, a distance of about nine miles, in fifty-eight minutes. Having lunched at Süs, we got into our sledge and started back over the pass. The sun had already set behind the mountains, but the sky was full of pink and yellow lights. Twilight was upon us before we reached the hospitz, and in the dusk we again mounted our toboggans and sped down home at a terrific pace. It was pitch dark when we reached Dörfli. We had, in a space of forty minutes, covered a distance of about ten miles, and, adding the day's tobogganing together, nineteen.

The other ride was of a weirder type—a glacier tobogganing expedition in early autumn, when the world below and around the glacier was still green and untouched by snow. A guide from Klosters, Herr Leonhard Guler, proposed that we should attempt to toboggan over a large stretch of unbroken snowfield, which covers the right side of the Silvretta glacier, from its summit to where it breaks away towards the foot. Our toboggans had to be carried on the men's backs from the head of the Vereina Thal to the Club hut where we slept. Early in October we accomplished this unique feat successfully. Rising long before the dawn, we drew our toboggans to the top of the glacier, and a grander run on any coaster it has never been my privilege to ride than that we had at sunrise, flying in the teeth of danger, choked and blinded by a cloud of granulated snow, and with one of the most magnificent views in Switzerland spread out before us.

Meadow tobogganing is the last form of the sport which I must mention. It is to be obtained in early spring, after the snow has been for some time alternately baked by day and frozen into a deep crust at night. Over this surface one may walk up and toboggan down at ease. But the sport is one which finds small favour with the English, and is more patronised by the natives. It presents few difficulties, and by the time it is accessible, the tobogganer has already been satiated, and is turning his thoughts to other sports in warmer climes.

ICE-SAILING

BY

HENRY A. BUCK

ICE-SAILING

By Henry A. Buck (*Spirit of the Times*, New York, U.S.A.)

Though America cannot claim the distinction of being the birthplace of ice-boating, the sport has reached its highest development in that country. Ice-yachting may be considered a peculiarly American sport, for nowhere else has the pastime been fostered and reduced to an exact science except on the continent of North America. Ice-boating is not by any means new. For centuries ice-boats have been common in Finland and on the canals of Holland, where they, indeed, are put to a practical use during the winter months. Before the days of railroads, ice-boats were very generally used in Holland as a means of transporting merchandise, but the possibilities of utilising them for amusement received little or no consideration.

In this country the sport has been practised since before the beginning of the century, as a pair of old iron runners, now in the possession of the Poughkeepsie Ice-Yacht Club, prove beyond doubt. Only in recent years, however, and on the Hudson River, has the pastime reached its highest development. In 1861, the Poughkeepsie Ice-Yacht Club of America, the pioneer club of its kind, was formed, and as it proved successful, and as the sport grew in popularity, many other clubs sprang into existence, the most prominent among

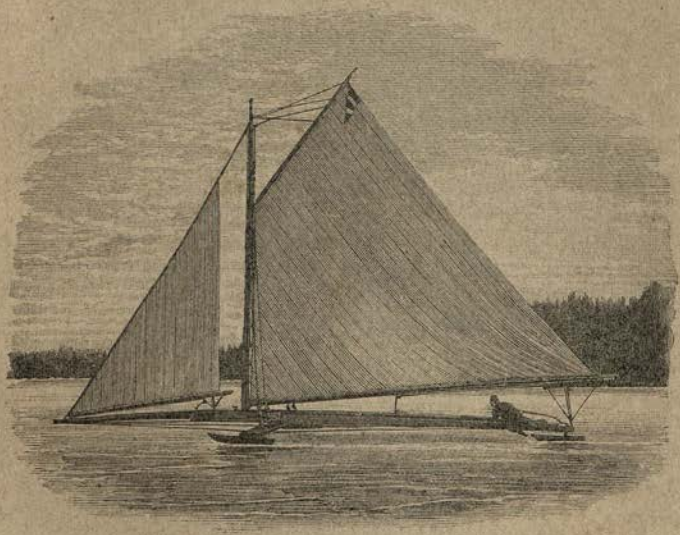
these being the New Hamburg, the Hudson River, the Carthage, and the North Shrewsbury.

The Hudson and Shrewsbury Rivers, the home of the above-mentioned clubs, have no monopoly of the sport, as ice-yachts are familiar sights on Lake Champlain, Lake Ontario, and many Canadian harbours. The keen rivalry between the Hudson and Shrewsbury River Clubs has accomplished wonders in the advancement of ice-yachting, and the yachts of these clubs unquestionably out-class, in speed, beauty and number, those of any other locality.

Ice-yachts as a rule, in the early days of the sport, were small, but as time passed it was found that, when all the possibilities and capabilities of the smaller craft were tested, only a certain maximum speed could be obtained. Larger yachts were then built, and, as in sea-yachting, the general principle was discovered that the speed increased in proportion to the sail area. Hence the construction of numerous larger yachts, the 'Icicle,' 68 ft. 10 in. in length, spreading 1,007 square feet of canvas, being the largest yacht built. Time and experience have shown that this is the maximum length consistent with greatest speed: for the weight of an ice-yacht of greater length, and, consequently, its friction, more than counterbalance the possibilities of increased speed. In fact, yachts about 50 feet in length have proved themselves on an average the speediest, the handiest and the best all-round craft—if so they may be called. It is a difficult matter, even to an expert ice-yachtsman, to designate the fastest yacht of the year, even in her own class, as one of the peculiarities of ice-yachting consists in the naming of yachts. Each owner claims a name of his own, which he perpetuates year after year, and, as each year a new boat is built, the generic name is given her. To-day, for instance, there are in existence seven 'Avalanches, one of which holds the record for the greatest authenticated speed.

While ice-yachting as a sport is common, ice-yacht racing is entirely confined to the yachts of the Hudson and Shrewsbury

Rivers. The owners of yachts are gentlemen of wealth and leisure, and the rivalry between them is keen. Several of them have been devoted followers of the sport for years, the best known being Messrs. John A. Roosevelt, Archibald Rogers, Col. E. Harrison Sanford, Dr. Barron, Judge Gildersleeve, and Com. Irving Grinnell. Several of these gentlemen have been in the habit of building a new yacht almost every year, until now they own a considerable fleet. The champion yacht of one



The 'Icicle.'

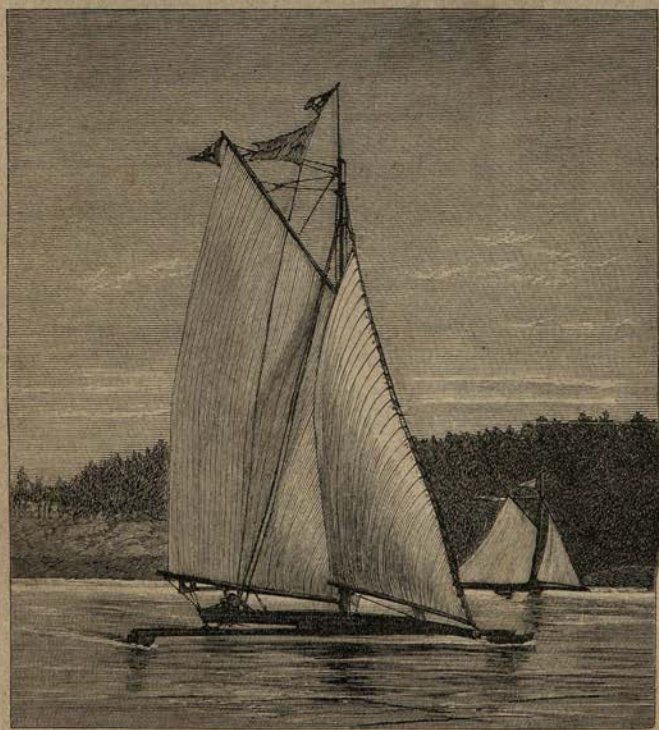
year is frequently beaten in the following by another, built upon the results of experience. As the 'Mayflower' defeated the 'Puritan,' and the 'Volunteer' the 'Mayflower,' so have the crack ice-yachts been defeated by later and improved counterparts of themselves. The Burgess among ice-yacht builders and designers is Joseph E. Buckhout, of Poughkeepsie, whose boats have always been successful. A number of his designing have been the winners of the Ice-Yacht Challenge Pennant of

America, regarded by ice-yacht owners as the America's Cup has been by their brethren of the sea.

A general idea of the form of the Hudson River ice-yachts may be obtained by a glance at the illustrations in this sketch of the yachts 'Icicle' and 'Avalanche.' Detailed and exact description of an ice-yacht would fill more space than we have at our disposal, but a few words as to their usual model and build may not be out of place. Briefly, the ice-yacht consists of a triangular framework of timber, sailing upon three steel runners, the after one of which moves horizontally, thus acting as the rudder. In front of the frame in the centre of the forward side the mast is set, as a rule, a foot or two forward of the junction of the centre timber with the runner plank. Forward of the mast, projecting like a continuation of the centre timber, the bowsprit is placed. The mast is stayed to the point of junction of the side timbers with the runner plank and to the bowsprit. At the end of the centre at the furthest point aft a platform or small shallow box is built for the helmsman. Before yachts reached this stage of development, the bare outline of which is here given, a considerable number of years had passed. Indeed, all the great improvements in the model and sail plan of the ice-yacht have been made in the past twenty years.

The rapid advance in the science of ice-yacht building can be judged when it is said that, until as late as 1877, all yachts on the Shrewsbury River had four runners, and in formation their models resembled the bob-sleds used by the Maine woodsmen for transporting their timber. The Shrewsburys, as they were termed, were safe, comfortable boats, and fast off the wind; but in windward work the three-runner Hudson River yachts easily surpassed them. Col. E. Harrison Sanford, as a final test to settle the superiority of these respective models, entered one of the Shrewsburys in several races, and the above was the invariable result of these contests. Nowadays, four-runner yachts are rarely seen, though they are more comfortable and safer than their faster three-runner rivals.

After this decisive test as to the respective merits of the three and four-runner yachts as to speed, attention was turned to their sail plan. Lateen, sloop and cat rigs all had their respective advocates, and the battle raged fiercely between the



'Avalanche,' a Typical Modern Racing Ice-yacht.

supporters of the first two types for years with varying success to either side. Mr. Henry Hallock, of Marlboro-on-the-Hudson, was the introducer of the first important modification of the lateen rig—the double-masted rig. This obviated the difficulty in going about under the one-masted rig ; for either

the yard had to be swung aft, or the sail had to be left hanging to windward of the mast, on every alternate tack. While the first example of the double-masted lateen-rigged yacht did not prove remarkably successful, the principle of the double mast for the lateen rig was sound, and boats built afterwards proved extremely speedy.

About two years later followed another important advance in ice-yacht building. This time a change in the form of the hull constituted the movement in advance. Capt. Hipe Relyea introduced the improvement in his yacht 'Robert Scott,' which consisted in a number of modifications in the former style of frame. The frame of the 'Robert Scott' included only the runner plank, the centre timber and the bowsprit. Instead of side timbers, wire rope stays were used to connect the runner plank with the ends of the centre timber and bowsprit. Turn buckles were fitted to these stays as a means of tightening or loosening the strain. The position of the mast was altered, and placed about three feet forward of the junction of the runner plank and centre timber, instead of at their junction. By this arrangement the pressure on the after runner was decreased, thus insuring a greater hoist, wider head, keeping the boom more inboard, and a better setting sail. Capt. Relyea's ideas have been generally followed in recent years; yachts of this model are known as Bob Scots, and to-day include the fastest and best vessels in the country. Each year the inventive genius of some devoted ice-yachtsman suggests new improvements of a minor nature, but that the Hudson River ice-yacht of to-day can be much improved in model or sail plan must be doubted.

Not only have wonderful strides been made during the past few years in practical ice-yacht building, but, owing to the scientific study and the experience of a small body of enthusiastic ice-yachtsmen, the proper management of an ice-yacht has been reduced to an almost exact science. The management of an ice-yacht is apt to strike one as most difficult and dangerous. Indeed, it must be admitted that considerable

nerve is requisite on certain occasions. The steering of the ice-yacht, which the water-yachtsman would naturally suppose to be not only a dangerous operation, but also one requiring considerable strength, belies its reputation in the latter particular, for the amount of physical energy expended upon the tiller is slight in the extreme. The tiller moves most easily, and unless the rudder strikes a crack or a snow bank, the strength of a child is sufficient to turn the helm. Coolness, decision and quick eyes are even more necessary on the ice than on the sea, for the delicacy of touch and the quickness of an ice-yacht in replying to her helm are most surprising. The decision and its accompanying act must be almost instantaneous and simultaneous. At the same time, the helm must be turned gradually, otherwise the yachtsman and his confiding guests are liable to be projected into space at a frightful rate of speed.

Owing to the unscientific construction of the yachts themselves, and the lamentable lack of experience and scientific knowledge upon the part of its devotees, ice-yachting in former days was regarded, and justly, as a most dangerous sport. Nowadays, the amusement is considered quite safe, and accidents are rare indeed. A few simple directions as to the management of an ice-yacht may not be out of place at this point. As in sea-yachting, getting under way is at times quite a serious operation, especially if the ice is not smooth. The jib sheet should first be trimmed aft, the stern swung around, and a strong push ahead should be given until the sails fill. The customary mode of stopping an ice-yacht is to luff up and run her into the wind's eye, just as the manœuvre is accomplished at sea. Frequently, however, an ice-yacht is compelled to stop quickly in order to avoid an accident. This difficult feat can be accomplished in two different ways. If beating to windward, luff the boat till her speed is decreased somewhat, and then suddenly turn the rudder hard a-starboard or port. This causes the rudder to act as a brake, and imposes a heavy strain upon it and the boat. Only in urgent cases should this method be

applied. If sailing free, to effect a sudden stoppage is a more difficult matter, but it can be accomplished in less distance and time. The method generally considered best is to pay off to jib, and when the boom swings over, just at the instant it produces the natural effect of a jerk upon the yacht, quickly turn the helm square across, naturally, to the leeward. In this case as in the other, the helm acts as a brake, and a yacht running at a fairly good rate of speed may be stopped by this method in twice her own length. Finally, to anchor an ice-yacht, turn her straight into the wind, lighten her jib sheets and put the helm square across. Remember always to cast off the jib sheet, otherwise the yacht may run away of her own accord when a favourable gust of wind strikes her. At one of the regattas, a yacht was supposed to be anchored, but owing to the fact that her jib sheet had not been cast off, she suddenly ran away, and darted about at a tremendous rate of speed to the imminent risk of life and limb of the spectators. The usual result of such a contretemps is a dangerous accident, and the almost inevitable total destruction of the yacht.

Whether in the hands of a skilful helmsman or racing about at large, an ice-yacht approaching one at its tremendous speed presents a terrifying spectacle. It is a strange sight to see the crew standing on the windward runner, clinging to the shrouds, and being carried along over the surface of the ice at a rate not much less than a mile a minute. Though their position appears dangerous, it is the safest on the yacht, and, needless to say, the only proper place for them. For not only do the crew act as ballast to the windward side, but because of their position they diminish the pressure upon the leeward runner ; besides, in case the spar is carried away, it will fall away from them, and, moreover, in case of a capsize, the crew will not be dragged along under the sail. Unless the breeze is half a gale, one man at the helm, in the box corresponding to the cockpit of an ordinary yacht, is sufficient, though the added weight of an extra man assists the helmsman in a gale, as it causes the rudder to take a firmer hold of the ice.

The best management of an ice-yacht cannot be described. Like many another sport, ice-yachting requires study, experience and natural adaptability to insure success; but much pleasure and excitement may be derived from it after a comparatively short novitiate by the use of the ordinary amount of caution and intelligence. Many of the general principles of ice-yachting are similar to those of yachting upon water, and any skilful water-yachtsman can easily become an adept in ice-yachting after a few lessons from an experienced hand. Special differences between the two kinds of yachting will be noticed, the most important of which is called 'beating to leeward.' As explained in Com. Irving Grinnell's 'Laws of Ice Navigation,' an ice-yacht sails faster than the wind, and in running before the wind the greatest speed is attained by an ice-yacht not in running dead before the wind, but in making short tacks slightly off the true course. The yacht then retains the high rate of speed which it would lose in running free dead before the wind. Other features worthy of remark are the closeness to the wind with which ice-yachts will sail—within two points in the case of a sloop and one and one-half points in the lateen-rigged yachts. Also the remarkable speed with which they go about. Friction is so slight that scarcely any of the pace is lost.

The most exciting moments on an ice-yacht occur when, in a heavy breeze, she 'lifts' or 'rears.' The sensation is something indescribable, when, rushing along at a tremendous rate, one suddenly feels himself lifted into the air, till gradually, as the skilful helmsman eases the yacht, the windward runner resumes it natural position on the ice. Ballooning in a gale may perhaps approximate in excitement to the sensation of the moment, but we doubt even that. Sometimes, however, the helmsman is not skilful, or the yacht is beyond his control, and the windward runner continues to 'rear,' the yacht decreases her speed and the boat gradually capsizes, the helmsman is thrown out of the box and the crew are left clinging to the shrouds in the air.

One of the greatest drawbacks to ice-yachting is the extreme shortness of the season—December 1 to April 1—and the uncertainty of ice and wind being as required at the same time. Thirty days' yachting in a winter is a remarkable record, and in some years half a dozen days is the limit. However, your true ice-yachtsman is an enthusiast, and takes advantage of every possible opportunity, sailing when the ice is covered with snow and the wind light with great cheerfulness. As to the cold, this never interferes with his sport. 'The colder the better,' says he; but a neophyte should be warned in advance as to the proper clothing to be worn, otherwise the danger of frostbite is great. Thick, woollen underclothes, a calfskin coat or cardigans, arctics, a fur cap protecting the ears and the thickest of trousers tied about the ankles are the necessaries. Fine wire goggles and a similar covering for the mouth will be found most useful when sailing in a hard snow-storm. The danger of frostbite, however, is not so great as one would expect, as the excitement and motion are apt to increase the circulation of a beginner until he feels himself in a glow, or sometimes a cold perspiration if the wind is high.

There is probably no other sport which combines such an amount of excitement and exhilaration as ice-yachting. The gambler, when at a single turn he has won a fortune; the engineer on his iron steed at its utmost rate; the balloonist, as the storm clouds rush him through space in their maddest flights—all these experience sensations which thrill and nerve them, but even sensations like these sink into insignificance when the ice-yacht acquires its greatest speed. The danger, the tremendous pace, causing a nervous excitement; the ringing sound of the steel runners as they fly over the ice, and the very frailness of the vessel, combine to produce a series of impressions which must be experienced to be appreciated. As the yacht glides along over the glassy surface of the Hudson, the snow-covered hills and mountains along the bank assume strange and fantastic forms, and one seems to be gazing at a kaleidoscopic panorama of hills, valleys, towns and forests. A

forest on the side of a precipitous hill, with a background of snow, flashes upon us, and before we have had sufficient time to take in the cold and desolate beauty of the scene, another picture presents itself—the village, and the country mill, the church and fishermen's huts huddled together under the sheltering breast of some hoary-headed mountain ; and then still another change of scene. Suddenly, an express train is seen dashing its way along the banks of the opposite shore. At once the helm is turned, and the vessel bounds forward eager for the race. In a moment or two the yacht is alongside the

'Vixen,' H.R.I.Y.C., racing Express Train.

train, the engineer salutes and pulls the throttle of his iron steed wide open, the passengers wave their handkerchiefs, the challenge is accepted, the helmsman puts the yacht about, and the race is begun. The wind along the shore is puffy and changeable, and for a moment the train seems to be leaving us behind ; but, as we round a bend in the river the full force of the wind is felt once more, and the yacht dashes ahead of the train, now teeming with excited passengers, as if the engineer were running at half-speed instead of at his greatest. Still another moment and the train is hidden from view by an intervening cliff and tunnel, and when the smoke of the engine is observed

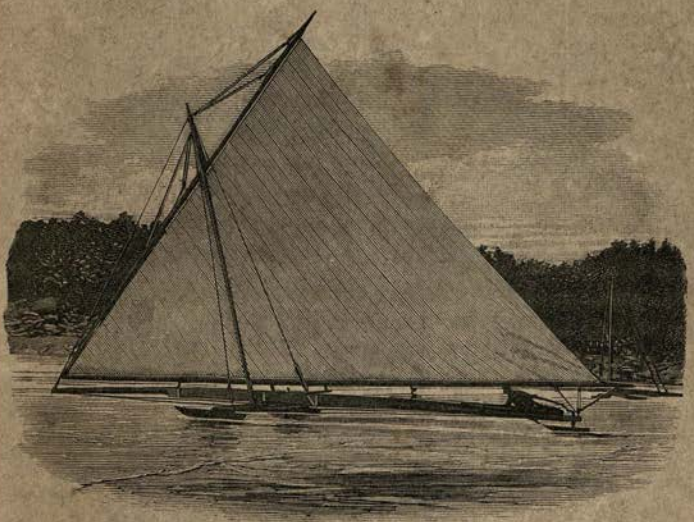
again, the ice-yacht is too far ahead to give even the semblance of a contest to what promised to be an exciting and close race. The yacht is eased and drops back again alongside the train, the engineer salutes his conqueror with three shrill whistles, and another race is begun, only to end as before.

Races between so-called lightning express trains, whose speed frequently attains sixty miles an hour, and ice-yachts are common events on the Hudson, and if the ice and wind are favourable the victory is always with the yachts. Frequently, an ice-yacht will run close to an express train, then, owing to a head wind, tack away from the train half-way across the river, the breadth of which near Poughkeepsie is half a mile, and return to the train, having gone two sides of the triangle while the train has gone one. In other words, the speed of an ice-yacht under favourable circumstances is scarcely exaggerated when placed as high as ninety miles an hour. The best authenticated record was made by Col. E. H. Sanford, of rifle-shot fame, with his 'Avalanche' over a measured course half a mile in length. Competent timers were present, the ice in splendid condition, the wind strong and steady. The 'Avalanche' covered the distance, carrying five passengers, at a rate equivalent to seventy-two miles per hour. The speed has undoubtedly been surpassed on many occasions, but never over a measured course, where competent timers held a watch and all preparations were made for a record-breaking performance. Col. Sanford himself, whose experience and scientific study of ice-yachting lend weight to his words, declares that in his opinion the 'Avalanche,' the 'Icicle,' and several others of the Hudson River fleet have at times attained as high a speed as that mentioned—ninety miles per hour.

An examination of the records made in contesting for the Ice-Yacht Challenge Pennant of America, here subjoined (p. 420), would convey the impression that the speed of ice-yachts under ordinary conditions of wind and ice had been much exaggerated. However, when one remembers that the vessel must beat to leeward as well as windward, some idea of

the distance traversed in a twenty-mile race can be formed. As a matter of fact, this distance will average forty miles in a twenty-mile race, and frequently exceed it.

In sailing regattas, the rules of the various clubs by which they are given are followed. The rules and regulations of all the ice-yacht clubs of the country are similar in general principles to those of the New York Yacht Club, allowance being made

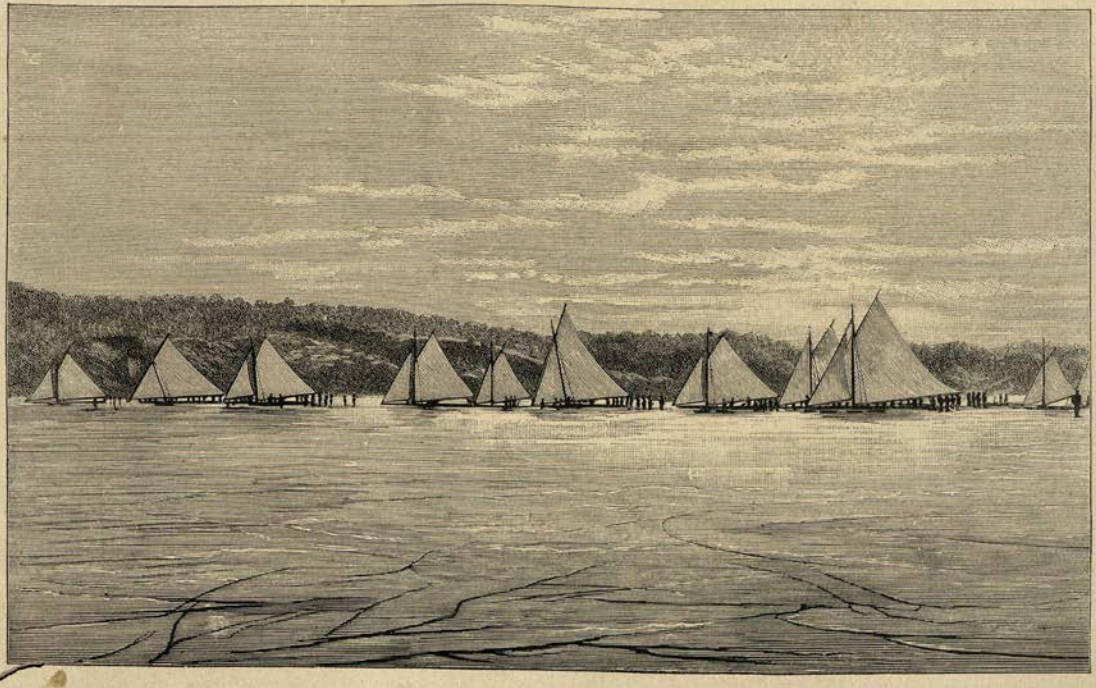


The 'Avalanche.

for the difference in craft and between ice and water. The great contest among ice-yachtsmen is for the possession of the Ice-yacht Challenge Pennant of America, already mentioned as the trophy *par excellence*. The pennant is a perpetual challenge flag, and never becomes the individual property of any club winning it. The club possessing it, however, is generally considered the most successful in the country, and that distinction is now held by the Hudson River Ice-Yacht Club,

ICE-YACHT CLUB RACES FOR CHALLENGE PENNANT OF AMERICA

Date	Name	Owner	Challenging Club	Winning Club	Course	Miles	Time	Wind	Condition of Ice
							H. M. S.		
Mar. 5, 1881	Phantom	W. Van Wyck	P.I.Y.C.	N.H.I.Y.C.	N.H.I.Y.C.	12	0 57 14	Light	Soft
Feb. 5, 1883	Avalanche	E. Harrison Sanford	P.I.Y.C.	P.I.Y.C.	N.H.I.Y.C.	20	0 57 0	Steady	Hard
Feb. 23, 1883	Jack Frost	Archibald Rogers	N.S.I.Y.C.	P.I.Y.C.	P.I.Y.C.	25	1 14 35	Strong	Hard
Feb. 9, 1884	Haze	Aaron Innis	N.S.I.Y.C.	P.I.Y.C.	P.I.Y.C.	21	1 5 30	Steady	Hard
Feb. 14, 1885	Haze	Aaron Innis	N.H.I.Y.C.	P.I.Y.C.	P.I.Y.C.	20	1 1 15	Strong	Hard
Feb. 18, 1885	Northern Light	J. C. Barron	N.S.I.Y.C.	P.I.Y.C.	N.H.I.Y.C.	18	1 8 42	Steady	Hard
Feb. 14, 1887	Jack Frost	Archibald Rogers	H.R.I.Y.C.	H.R.I.Y.C.	P.I.Y.C.	16	0 43 40	Steady	Hard
Mar. 8, 1888	Icicle	J. A. Roosevelt	N.S.I.Y.C.	H.R.I.Y.C.	H.R.I.Y.C.	12	0 36 59	Strong	Soft
Feb. 25, 1889	Icicle	J. A. Roosevelt	N.S.I.Y.C.	H.R.I.Y.C.	H.R.I.Y.C.	16	0 54 1	Steady	Hard



THE START
Race between Poughkeepsie Ice Yacht Club and Hudson River Club at Poughkeepsie, February 1887

the famous yacht 'Icicle,' the property of Mr. John A. Roosevelt, having won it at the last two contests.

A brief summary of the contests for the pennant thus far is given in the table on p. 420.

One of the peculiarities of ice-yachting most surprising to yachtsmen of the sea is recognised under the sailing regulations and rules of the Hudson River Ice-Yacht Club, the most prominent organisation of its kind in America, comprising in its list of yachts all the best representatives of the various types. This strange feature of ice-yachting is that pushing is allowed in a regatta under certain conditions, as the following rule shows: 'Unfair pushing is strictly forbidden in any race for a prize: any ice-yacht infringing upon this rule, in the opinion of the Regatta Committee, shall forfeit all claim to the prize.' In going about in a light or variable breeze an ice-yacht will stick, and as the runners would soon become embedded in the ice if some provision were not made for such a contingency, pushing is allowed under such circumstances. As there is now a time-limit of one hour and fifteen minutes in a twenty-mile race, the usual distance for races nowadays, the difficulty as to what constitutes fair and unfair pushing is entirely eliminated, as the shortness of the time-limit reduces the possibility of winning a race by pushing to a minimum.

For racing purposes ice-yachts are divided by sail-area into four classes, as follows: First class, measuring 600 square feet of sail-area and over; second class, measuring 450 and under 600 square feet; third class, measuring 300 square feet and under 450; fourth class, measuring less than 300. The fleet of the Hudson River Ice-Yacht Club, comprising in its list all the 'cracks' of America, is given in the table on p. 422.

The following laws of ice-navigation, prepared by Com. Irving Grinnell, one of the most experienced and consistent supporters of the sport, will add something of practical value to this sketch. The principles of manœuvring ice-yachts have been reduced to an almost exact science by the Commodore,

FLEET OF THE HUDSON RIVER ICE-YACHT CLUB

First-Class Yachts

Yacht	Owner	Length: Centre timber over all	Length: Rudder post to centre of runner plank	Beam	Area of Sails	Rig	Port
		ft. in.	ft. in.	ft. in.	sq. ft.		
Avalanche	E. Harrison Sanford	49 2	26 7	26 8½	825	Sloop	Roosevelt Point
Boreas	Irving Grinnell	44 0	24 0	20 10	620	Sloop	New Hamburgh
Flying Cloud	Irving Grinnell	53 0	32 0	21 6	610	Cat	New Hamburgh
Icicle	J. A. Roosevelt	48 10	26 3	25 1	735	Sloop	Roosevelt Point
Jack Frost	Archibald Rogers	52 0	27 0	28 0	911	Sloop	Hyde Park
Northern Light	J. C. Barron	43 2	23 4	25 3	680	Sloop	Roosevelt Point
Reindeer	W. Kane	48 10	26 0	26 0	731	Sloop	Hyde Park
St. Nicholas	E. P. Rogers	42 6	23 5	24 0	679	Sloop	Hyde Park
Zero	Irving Grinnell	48 6	25 9	25 7	750	Sloop	New Hamburgh

Second-Class Yachts

Bessie	N. P. Rogers	35 0	19 0	20 0	485	Sloop	Hyde Park
Blizzard	J. Neubold	39 0	21 1	24 0	560	Sloop	Hyde Park
Dreadnaught	W. Cary Sanger	38 3	21 0	19 10	525	Sloop	Brooklyn
Grace	Lewis Edwards	35 7	19 1	18 6	493	Sloop	Roosevelt Point
Great Scott	E. Harrison Sanford	38 7	17 2	20 6	499	Sloop	Roosevelt Point
Santa Claus	J. R. Roosevelt	42 1	23 5	24 1	592	Sloop	Hyde Park
Blitzen	Archibald Rogers	42 6	23 5	24 0	592	Sloop	Hyde Park

Third-Class Yachts

Arctic	H. P. Rogers	29 0	14 0	15 3	383	Sloop	Hyde Park
Arrow	Lewis Edwards	31 11	16 7	18 0	369	Sloop	Roosevelt Point
Cyclone	J. R. Roosevelt	32 1	16 1	16 0	417	Sloop	Hyde Park
Duden Darden	R. B. Suckley	39 0	20 0	19 0	440	Sloop	Rhinecliff
Eskimo	P. Phœnix	31 11	16 7	18 0	369	Sloop	Poughkeepsie
Galatea	Robert R. L. Clarkson	32 2	17 9	17 4	410	Sloop	Tivoli
Gracie	G. E. Buckhout	36 0	14 0	17 0	374	Sloop	Poughkeepsie
Onteora	Herman Livingston	33 1	17 4	20 0	443	Sloop	Catskill
Polaris	J. C. Barron	36 6	19 6	20 0	441	Sloop	Roosevelt Point
Snowball	P. C. Rogers	36 0	22 0	20 6	448	Sloop	Hyde Park
Snowflake	E. P. Rogers	38 0	19 0	18 0	444	Sloop	Hyde Park
Vixen	J. A. Roosevelt	23 8½	18 5	17 0	335	Lateen	Roosevelt Point
Whistler	Irving Grinnell	38 0	19 6	16 6	375	Sloop	New Hamburgh
Whiff	Irving Grinnell	31 7	15 9	16 6	360	Sloop	New Hamburgh

Fourth-Class Yachts

Althea	Samuel Sexton	26 6	12 0	15 0	220	Sloop	Hyde Park
Ariel	Archibald Rogers	26 0	15 0	16 0	253	Sloop	Hyde Park
Breeze	James Reynolds	29 10	15 0	17 0	287	Sloop	Poughkeepsie
Dashaway	Robert R. L. Clarkson	23 3	11 8	12 6	220	Sloop	Tivoli
Dombey	R. B. Suckley	20 0	15 0	14 0	265	Sloop	Rhinecliff
Fairy	Lewis Edwards	34 5	12 6	11 3½	248	Sloop	Roosevelt Point
Flirt	J. Hopkins and C. Parker	25 0	10 0	12 6	150	Sloop	Hyde Park
Puff	Irving Grinnell	28 2	14 0	13 0	200	Sloop	New Hamburgh
Quickasawink	C. H. Gallup	30 0	15 9	16 0	295	Sloop	Poughkeepsie

and some of the deductions arrived at seem simply marvellous to the neophyte, correct though they are. It has already been said that this class of craft attains its highest speed in 'beating to leeward,' but that the speed should be reduced to a minimum when running dead before the wind seems a paradox to water-yachtsmen. Com. Grinnell says: 'The two marked peculiarities of ice-yachting which cause it to differ materially from yachting on the sea are: I. Sailing faster than the wind. II. Sheets flat-aft under all circumstances.' A few words are herewith presented in explanation of the above facts:—

1. An ice-yacht sails faster than the wind, because she invariably sails at some angle to it. It takes but little wind to overcome the slight resistance from friction and to give the yacht a certain headway, after which each additional impulse of the wind, striking the yacht obliquely, serves to rapidly augment the momentum till a point is reached where any further increase of the latter is counterbalanced by the increase of friction. In other words, in the absence of much friction there is a desire on the part of the yacht, after receiving an impulse from the wind, to keep going ahead at the speed already acquired, thus permitting the next impulse derived from the wind to be devoted almost wholly to an increase of speed. In this manner it will be understood that a constant rapid succession of such driving thrusts of the wind against the sail must eventually cause much greater accumulation of speed in the ice-yacht than that actually possessed by the wind itself. If the yacht sailed directly before the wind, she would be entirely at the mercy of the wind, and, like a balloon, could never sail faster than the wind was blowing.

2. An ice-yacht sails always with sheets flat aft, because the great speed of the yacht changes the angle at which the wind strikes the sail from that at which it would strike if the yacht were stationary, to such a degree that in whatever direction the yacht is sailing, whether with wind abeam, or three-quarters free, or from any other quarter, the result is always the same as if the yacht were close-hauled on the wind.

It thus follows that the yacht is actually overhauling the wind, and her canvas shivers as if in the wind's eye. Her momentum becomes less and less until it drops to the actual velocity of the wind, when, if more speed is required, the yacht must again be put at an angle to the wind, or she can be readily stopped at this diminished speed by being spun round and brought head to the wind. This latter mode is one way of 'coming to,' instead of luffing up in the usual way from a beam wind, and is preferable in heavy winds; for by getting well to windward of the desired port, and then running dead before the wind, the speed is reduced to the minimum in ice-yacht sailing.

In beating to windward an ice-yacht is governed by the same principles as ordinary sailing craft, save that she points more closely and travels at about the same speed as the wind.

It only remains to add that in all the above cases the ice is supposed to be smooth and hard and free from snow.

In connection with ice-yachting, a few words on the subject of snow-yachting may be of interest to our readers. Snow-yachting in the Far West is a sport comparatively unknown even in the eastern part of America, and the stories of the speed and possibilities of Western snow-yachts have been the subject of considerable discussion. However, while snow-yachting cannot be called a common sport, nor can the reports as to the great speed of the boats be verified, Dr. H. M. Wheeler, of Grand Forks, Dakota, enjoys the distinction of having shown most conclusively that snow-yachting is not only a practicable, but a pleasurable and exciting, sport. During the great blizzards, which are sometimes the cause of the loss of many lives and the complete destruction of large herds of cattle, the snow-yacht is in its element, and in several instances these wonderful craft have saved the lives of travellers who have lost their way on the prairies or have been overcome by the cold and snow. The prairie yacht constructed by Dr. Wheeler is built on the same principle as

the ice-yachts of the Hudson, except that the runners are toboggans. The general dimensions of Dr. Wheeler's craft are: length, 32 feet; beam, 14 feet; mast, 20 feet in height; main boom, 22 feet; gaff, 12 feet, and jibboom, 12½ feet. The runners are strong and heavily-made toboggans, the front ones being each 1 foot wide and 9 feet on the run. The near runner, to which a rudder is attached, acts as a helm, and is similar in construction to those in front, only the width is six inches instead of one foot, and this is made of two strips of ash instead of one. These craft on a firm crust of snow glide over the surface at a rate of speed varying according to the strength of the breeze and the smoothness of the crust, sometimes attaining, however, as high a pace as thirty miles per hour. One winter on the Hudson, after a heavy fall of snow, there came a thaw which continued only for a few hours, after which an extremely cold spell began. Thus a crust was formed over the snow of considerable firmness, and the experiment of sailing ice-yachts on this snowy surface was tried by enthusiasts in the sport. Considerable success attended their efforts, though the high rate of speed could not be attained. In the long experience of a devoted ice-yachtsman of nineteen years, the condition of a snow-crust sufficiently firm to prevent the sharp ice-runners from cutting through was seen only once on the Hudson. But in Dakota this is a frequent occurrence, and as miles and miles of country land exist without a fence, the only obstructions to the sport are occasional clumps of trees, which can easily be avoided, and the telegraph wires. The highest speed of these yachts can only be gained with the wind square on the beam, and beating to windward is an impossibility. Notwithstanding the disadvantages attending snow-yachting, considerable excitement and sport is secured from it by its votaries on the Far Western prairies, who are unfortunate enough not to be able to enjoy the pleasures of ice-yachting.

BANDY

BY

C. G. TEBBUTT

BANDY

By C. G. Tebbutt

The game of bandy, otherwise known as hockey and shinney, or shinty, is doubtless one of the earliest pastimes of the kind ever known. In its most primitive form it is simply played down the middle of a village street by boys who, armed with bent sticks, make themselves warm on a winter's evening by knocking a 'cat' about, all against all. At other times sides are chosen and it becomes a more regular game, the hedges or houses forming the side boundaries, and a couple of stones, some hundred yards apart, marking each goal.

From this rough-and-ready frolic, however, the present games of hockey and bandy are derived.

The word 'hockey' is now given to a well-established game under definite rules, played with boundaries and goals as football is on grass, while 'bandy' has long been identified with a game played like hockey, but on ice; and it is with this game we are now concerned.

Some persons suppose that the origin of the word 'bandy' is to be found in the bent stick employed, the old English word being still retained, as in the expression 'bandy-legged,' while others imagine that the term is derived from the verb to bandy—to 'bandy looks,' for instance, the ball being 'bandied' about, or struck backwards and forwards.

Probably bandy was played on the ice before skates were

in use, for the level and slippery ice would suggest a surface upon which a 'cat' could be easily and accurately driven. A very ancient form of this game which did not require skates, and vaguely resembles curling or bowls, existed centuries ago in Holland, and was played with sticks or mallets and balls. Polo, it may be added, is another branch of the same game.

But, when once the player was shod with skates, and could career over the ice at a great pace, could suddenly stop, and as suddenly start, could turn and dodge at full speed and maintain a pace impossible on land, then enthusiasm for bandy was assured; it became, in fact, to its devotees the most fascinating of games.

Bandy can be played on a comparatively small piece of ice, but a large expanse is desirable, and the Fen district in England is therefore specially suitable for the game. The uplands send their water after heavy rains down into the Fen rivers, which overflow and flood the washes and low-lying meadows; then, should a frost come, any quantity of ice is available.

Bury Fen is one of the ideal places for the game. Lying alongside the river Ouse, just above where it connects with the Old West River to Ely and the Cam, and the Old and New Bedford Rivers with the great washes between, Bury Fen is, during a frost, in skating touch with a great many Fen villages. After heavy rains the water confined within the river rises rapidly and soon becomes higher than the low-lying meadows comprising Bury Fen. The sluice gates are then drawn, and the river water, thick with rich alluvial deposit, soon spreads over the grass land. Once flooded and the gates closed, the still water drops its deposit on the grass beneath, and when frost follows, the still shallow waters are the first to bear. No better place for skaters could be chosen.

Bury Fen lies within the twin parishes of Bluntisham-cum-Earith, in the agricultural county of Huntingdonshire. As soon as frost sets in, work is at a standstill, and squire, farmer, and labourer indulge in skating. It was more specially from

the bargemen and fishermen of Earith that the bandy players in times past were recruited, their occupation seeming to fit them better for active exercise than did the more laborious work of the agriculturist.

Concurrently with skating races, bandy matches have long been held in the fens. It is certain that during the last century the game was played and even matches were held on Bury Fen, and the local tradition that the Bury Fenners had not been defeated for a century may not be an idle boast. But it was not until the great frost of 1813–14 that tradition gives place to certainty. I propose to furnish a short account of the Bury Fen players; for, excepting a few games played on private waters in different parts of England, bandy has been confined to that district, and its history is a history of the game.

When the army of Napoleon, retreating from Moscow, were starved and frozen to death by thousands; when, at home, Prof. Sedgwick had to burn his gun-case and chairs to keep himself warm; when the scarcity of coal at Cambridge was so great that the trees within the grounds of St. John's College were cut down for fuel, and in all the colleges, we are told, the men sat in their rooms two and three together for warmth; then the hardy watermen, gunners, and labourers were quickening their circulation by playing bandy on Bury Fen. It was then that that fine old Fenman, William Leeland, at the time scarcely eleven years old, remembers watching the matches and joining in the practice of bandy. Undoubtedly matches were played before this time, and Leeland had 'heard talk' of them; but we have no records.

The first particulars of a match come from Mr. Richard Brown, who umpired on the occasion. It was about 1827, and is typical of the class of matches then held. William Leeland was captain. It was a match between Willingham and the Bury Fen players of Bluntisham-cum-Earith, and was fought out on a wash along the Old West River near Willingham. The game was for a leg of mutton, which all afterwards enjoyed at the expense of the Willingham team at a neighbouring inn.

After play it was usual to have what was called a 'randy,' when good healths were drunk, defeat and hard luck forgotten, and fresh matches arranged.

Until well into 1850 Leeland captained the Bury Fenners, and only died in the autumn of 1891, in his ninetieth year. An interview with this fine old player was made specially interesting by his pleasant memories of matches won at bandy. He delighted to the last in telling how they journeyed up the main river and defeated their most redoubtable foes, Swavesey and Over; how they skated along the Old West River and lowered the colours of Willingham and Cottenham; how, on the frozen expanse of washes between the Bedford rivers, they played for and enjoyed legs of mutton at the expense of Sutton and Mepal; and how, at various times, on their own fen, besides meeting all these teams, they beat Chatteris, Somersham, and St. Ives. The game old captain never forgot to add that they 'never was beat by any town and could do it with ease.'

The renowned team consisted of William Leeland (capt.), a boatwright and right-handed player; Phil Bedford, a lighterman, 'that marvellous dribbler,' whose only fault was, that he kept the ball too long, and who, with his light short one-handed bandy, threaded his way through all opposition, lifting up the big bandies of his opponents when in his way; Hodgson and John Jackson, sure goal-keepers—the latter's bandy, well past its jubilee, was used by his grandson, Murphy, in the game played last winter against Virginia Water; John Aubrey, a labourer, and second only to Phil; Bill Ayres, a famous skater, the fastest half-miler in the Fens; Bill Christmas, a bandy-legged man; John Rawling, the big man of the team; William and John Large, brothers, who emigrated to America; Jos. Edwards, who acquired a knack of getting the ball between his feet and carrying it along; Mr. R. Brown, and Mr. Jonas Tebbutt; Rob. Headley, Jas. Searle, and Thos. Mehew. Of these only Mr. R. Brown (88), Jas. Searle (75), and Bill Christmas (71), still live at the time of writing (Christmas, 1891).

Next to the Bury Fen players those of Swavesey were considered 'the most deadly.'

The 'cat' or 'kit' was generally a ball, but often a bung of cork or wood did service, sometimes a cricket ball, and more recently an indiarubber ball was used. The bandies were curved sticks often cut from the lower branches of the pollard willow-trees which abound in the Fens. The lower branches grow in a curve upwards until clear of the upper branches which surround the topped head of the tree, and thus are often naturally just the right shape for bandies. A good bandy was eagerly looked after; once possessed it was carefully preserved, and became the pride of the owner. As it hung up in the cottage it recalled many an exciting game, and started many a fireside talk of how matches were lost and won; thus stimulating the young to become players. No one who has not talked to the superannuated players can realise how intense was the interest in bandy fifty years ago in Bluntisham-cum-Earith.

A generation later, when Leeland's playing days were over, we still find the game in full swing during those winters when frost made the Fen waters bear. The improvement in agriculture and drainage of land, and enclosure of open fields, had deprived some villages, like Cottenham, of their bandy ground, but whenever possible, Bury Fen, Swavesey, Over Chatteris, &c., played matches. Messrs. C. P. Tebbutt, N. Goodman, and W. L. Meadows captained the Bury Fen teams. In 1860 an attempt was made to introduce the game in London, and on December 27 a lot of Fenmen collected on the ice at the Crystal Palace. During 1868 so strong were the Bury Fen players that when through a misunderstanding two teams, Swavesey with Over, and Chatteris, arrived to play, Mr. Meadows chose one Bury Fen team, and Mr. Tebbutt another, and they defeated both the visiting teams. One of the Chatteris team, a very big man, lay down, blocking the goal from post to post for all balls that kept on the ice. The series of cold winters beginning with 1879 made Bury Fen lively with

bandy and bandy matches, Mr. Sidney Tebbutt generally captaining the team. Matches and return matches were played with Swavesey, Chatteris, St. Ives, Huntingdon and Godmanchester at Mare Fen, Hertford, Houghton, and on Bury Fen. Still the Fenners maintained their credit for an unbeaten record. The most important of these games, including the best players of the neighbourhood, was against Huntingdon and St. Ives, captained by Mr. Henry Goodman. The home team won three goals to one, C. G. Tebbutt scoring two; F. Jewson, one; and J. Goodman, the Hunts goal. The size of ground used was about one hundred and fifty to two hundred yards long, by one hundred to one hundred and fifty yards wide.

In 1882 a general meeting of the players of the neighbourhood was held at St. Ives, with Mr. C. P. Tebbutt in the chair, when rules for play were discussed and adopted. Again in 1889 play was possible, and under the captaincy of Mr. C. G. Tebbutt the club played and beat teams from St. Ives, Godmanchester, and district. The winter of 1890-91 should have proved an eventful one from the long continuance of the frost, but an extraordinary lack of rain in the summer and autumn left the washes quite dry. Only one match was played in the district—that against St. Ives, on December 26, on the Ouse River below St. Ives, when the visitors made the only three goals scored.

For several years the writer had visited Holland to take part in and witness skating races, and, in the trips made over the country, he was struck with the facilities which the frozen rivers, lakes, and waters that everywhere abound gave for playing bandy. These deserted areas of ice seemed to be 'a sinful waste,' and led to a determination to introduce the game. In the winter of 1890-91 this was made possible by the co-operation of Mr. W. Mulier of Haarlem, and on January 3, a Bury Fen Club team left Harwich for Holland. The first match was played on the ice rink at Haarlem before a large number of spectators, and to the strains of a band. The Dutch team was in connection with the Netherlands Football and Athletic

Union, and was captained by their president. The English, of course, won easily from such inexperienced opponents. The teams were: Bury Fen:—W. Minson (goal); Arnold and C. G. Tebbutt (capt.), (backs); Neville Tebbutt, B. B. Tarring (half-backs); H. Wadsworth, F. Jewson, Maurice Warren, Jos. Goodman, Sidney Tebbutt (forwards).

Dutch Team.—Ples (goal); Roothoven, V. Walcheren (backs); J. Walcheren, Klinkhamer, Gr. von Rogen (half-backs); Meyer, Menten, Haas, W. Mulier (capt.), von Manen (forwards).

The next day a game was played with a team captained by Mr. Vrowes, on the splendid ice rink at Amsterdam, round which are held the international races. The result was, of course, again an easy victory.

The day following the English team played Mr. Mulier's team on the Amsterdam rink, and though the Dutch suffered defeat they played better and fully appreciated the lively character of the game.

Returning to England, the last and only match played was against a London team at Virginia Water, which will be referred to. Here for the first time the Fenmen suffered defeat.

Bandy, or, as it is often called, 'hockey on the ice,' is too good a game to have been always confined to one district of England. During a prolonged frost wherever a large piece of water gave scope games had been played. Thus, in 1864, a Hatfield eight played a Hoddesdon eight at Brockett Hall Park. It may, however, with truth be said that until 1879 nowhere but in the Fen district was bandy considered a recognised game. The great skating seasons beginning with 1879, which gave the N.S.A. its birth, also started bandy in and around London. The various cricket, hockey, and rowing clubs played games in the neighbourhood of Hampton Court, on the Rick Pond, Home Pond, Virginia Water, Wimbledon Lake, &c., stimulated doubtless by the annual match between Kingston Rowing Club and Surbiton Hockey Club, instituted as early as 1875. It was in this neighbourhood that the famous

Molesey, Surbiton, and Kingston hockey teams flourished, and when frozen out kept themselves in practice by playing bandy. In some of these games a leather-covered bung and light ash sticks were employed, in others the ball and bandy were used.

During the winter of 1890–91 several matches were played near London, the principal being Virginia Water *v.* Mr. G. E. B. Kennedy's eleven, which was closely contested, victory falling to Virginia Water, two goals to one. After this a combination team was chosen to meet the Bury Fen Club, under the captaincy of H. Blackett, and called 'The Virginia Water Team.' For the first time the club left their native fens for the metropolis, and met on Virginia Water the representative London team. As a thaw had set in it was impossible to obtain as wide a piece of ice as is desirable. Some of the Londoners had been used to the leather-covered bung and light ash sticks, so the first half was played with these, during which the Londoners obtained one goal. At half-time the bandy and ball were played with, and the 'off-side rule,' to which the Fenmen were unused, was agreed upon. The Londoners increased their goals by eight, whilst the Bury Fen club only made three. It was a very fast game throughout, the home side including some of the best hockey players of England, showing great speed, combination, and hitting power. The teams consisted of, Bury Fen : W. Minson (goal) ; R. Goodman (capt.), A. Tebbutt, L. Tebbutt (backs) ; F. Jewson, B. B. Tarring (half-backs) ; J. Goodman, C. G. Tebbutt, H. Wadsworth, Murphy, and H. Murphy (forwards). Londoners : R. P. Sewell, S. King Farlow, V. L. Oliver (backs) ; M. M. Barker, A. King Farlow, A. C. Hall (half-backs) ; J. Ward, G. E. B. Kennedy, H. Blackett (capt.), (forwards). In consequence of the great interest this match created, and the necessity of having uniform rules now that bandy was becoming general, a meeting of bandy players was held to consider rules and form a Bandy Association.

Outside the metropolis play during the last ten years has been indulged in on various private waters all over the

country, as at Odiham, on Sir Henry Mildmay's Dogmersfield Lake, at Trafford Park, Footscray Park, Norfolk Broads, Kimberley Park, Sidcup Water, Combe, Derwent Water and English lakes, Basingstoke, &c.

At Winchester in the winter of 1890–91 a club was started with Mr. A. Tebbutt as Captain. Five matches were played; two with Basingstoke, two with Odiham, and one with Stockbridge. In 1891 the Thames Valley Club was formed, with Mr. G. E. B. Kennedy as captain. It now requires only a few good frosty winters for such extensive pieces of water as Fleet Lake, Welsh Harp, Edgbaston and Olton Reservoirs, the Norfolk Broads, &c., to become centres for bandy matches, and should the Dutch and Norwegians with their greater facilities for play take up the game, then international matches may enliven a frost when football, hockey, hunting, golf, coursing, and racing are frost-bound and laid up.

Rules of Play.—The rules resemble those now in force for hockey and Association Football. The ground is marked out with boundary flags and goal posts, the same as for football. In length it is 150 yards and in width 100 yards, whilst the goal posts are 12 feet wide and 7 feet high.

The only restrictions to the bandy-stick or its use are as follows:—It must not be more than 2 inches wide in any part. To prevent danger from striking, no one is allowed to raise his bandy above his shoulder, and only the goal-keeper may hit the ball whilst it is in the air. The ball used is of solid indiarubber and about $2\frac{1}{2}$ inches in diameter.

A team consists of eleven players. If the ball passes the side boundaries or the goal line it is brought into play much in the same way as in hockey, and the same may be said of 'corner hits' and 'free hits.'

The 'off-side' rule is in force, with the restriction that no one can be off-side when within his own half of the ground.

The game is begun by the umpire throwing the ball up in the centre of the ground.

Play.—A few remarks upon play will not be out of place.

One barrier to effective play, that of getting good bandies, is now overcome. Bandies should be as light as possible, and only as wide as is necessary to stop a ball travelling fast and to carry it along over imperfections in the ice or through a thin coating of snow or cut-up ice. The disadvantage of heavy bandies was once for all shown by the defeat which was sustained by a team armed with young trees on Bury Fen in 1868. The length and exact shape will vary slightly with different players, but perhaps a 3-feet handle and a blade about 7 inches long and 3 inches wide is the shape to be recommended.

It is often best to stop the ball with the foot, as it can be stopped thus quite dead. Never meet the ball with the bandy, but if anything draw it back, or the ball may jump over the blade. When receiving the ball always, if there is time, stop it before passing it on.

The difficulty of pushing the ball along at hockey prevents the dribbling which is one of the finest features of bandy. On a smooth level sheet of ice the ball can be pushed along without appreciably affecting the speed of the player. A skater can also without altering his direction or pace suddenly bring the ball from one side to the other, a distance of some 10 feet, the full stretch of his arm and bandy giving him a long reach and command over a large area of ice in front of him. If the track of the ball and the player who has threaded his way through much opposition be mapped out, it will be found that it was the ball which followed a zig-zag course, not the skater.

With a 5-feet reach and the power of suddenly stopping, starting, and turning, an extraordinary power of dribbling is possible to a fast and skilful player, exceeding the wildest dreams of a hockey or football player.

The advantage of jumping off fast and doubling is seen by the way a hare, when coursed, can shake off two greyhounds.

It may always be considered that possession is many points

DRIBBLING AT BANDY

of the law in bandy, and that it takes at least two players for tackling. The greatest difficulty the one in possession has is from one who can outpace him. He should then pass as soon as possible. It is a good rule to always pass in good time, and to remember that the ball cannot be sent in the air over opponents as in football. For this reason it is unwise to take the ball to the side boundaries in hopes of passing it in front of goal when near the goal line; play should be towards goal.

When tackling never have the bandy held out at full stretch, but close to you, ready to be darted out at the right moment. As seen in the illustration, the player in possession can gauge to a nicety the other player with his arm and bandy at its fullest reach. If you cannot get a ball away from a player, then drive him to the side boundaries, or if you have pace, badger him and prevent him from passing or hitting at goal with precision.

The defence of goal is of great importance. A hit at goal by a player near is very dangerous, but if from a little further off so that the goal-keeper can 'spot' the ball, it is of little importance. With goals 12 feet wide, instead of 6 feet as formerly, it is now impossible to block them up by lying down as the six-foot goal-keeper from Chatteris once did. The goal-keeper should, unless very much pressed, always first stop the ball before hitting it. Hitting a rapidly moving ball is too risky. The Virginia Water team, composed mostly of hockey players, showed in their match with the Bury Fen Club how effective skilful hitting at goal can be, and how dangerous it is to leave the ball in front of goal.

It is possible to make the ball rise in the air, and a goal-keeper might with advantage practise doing so. If, instead of striking the ball when it is directly sideways to you, you hit it when slightly in front with the bandy turned so as to act as a golf 'lofting iron,' the ball will then fly off the ice. In starting the ball from, say, a free hit, by teeing the ball with snow it will be found that it is quite easy to make it fly up

like a football. This 'lofting' may be of great use to a goal-keeper to relieve his goal when pressed. A bandy in the shape of a 'lofting iron' may become necessary, in spite of the difficulty of stopping balls with it.

For the regular attack and defence game a system of forwards, half-backs, and backs is necessary. If a forcing game is played, it is wise to have at least two fast skaters for backs, whose pace will enable them to overtake forwards when the line of defence is broken through. If a defensive game is played, then the goal-keeper must be supported by backs just outside goal. Should the backs be too far in front they can be dribbled past, and are useless at the critical moment.

The best skates are the flat-bladed skates with a sharp heel, as used in the Fens; but any skate which has not very curved blades will do. It is a mistake to suppose that great speed for a short distance is only possible on Fen skates; it is activity that is of greater importance. But where the advantage of Fen skates comes in is in the greater firmness and steadiness of players on them. A Fenman seldom falls or loses control of himself, even when going at great speed. On curved blades it is impossible to keep quite a straight course or to prevent rolling slightly from side to side. The sharp heels should be of use for suddenly stopping and turning.

The best practice for playing bandy is to play hockey, for the wonderful hitting and passing of hockey players must give them great advantage in the use of the bandy stick.

There is no need for bandy to be rough or dangerous, nor does the game deserve the character sometimes given to it. If the frost king, Thialf, could only be bribed to send plenty of frost and skating, bandy has all the elements to make it a most popular game, and would become so. We may expect that in countries blessed with a colder climate the game will develop in the same way as hockey and football have done in England. Play is more rapid and exciting than in any other game. It requires the nicest combined use of eye, hand, and foot, and calls forth the greatest enthusiasm from those

who have once played, while to the spectator the rapid and tricky dribbling, accurate passing, and sure shooting, make it a most fascinating spectacle.

SKATING RECORDS

Without favour of wind, with one or more turns, and from standing start

Distance	Time			Skater	Country	Where skated	Date
	hr.	m.	sec.				
¼ mile			36½	C. G. Tebbutt . .	England	Bury Fen	1886
½ ,,		1	22⅘	K. Pander . . .	Holland	Amsterdam	1889
1 ,,		2	53	Geo. See [1] . . .	England	Slikkerveer	1887
1 ,,		2	53½	James Smart [1] . .	,,	,,	1887
1 ,,		2	55⅗	Th. Thomas . . .	Sweden	Stockholm	1890
1 ,,		2	55⅘	O. Grunden . . .	,,	,,	1890
2 miles		6	10⅕	J. F. Donoghue .	United States	Amsterdam	1891
3 ,,		9	17	,, .	,,	Heerenveen	1891
4 ,,		14	10½	F. Dowd [1] . . .	Canada	Montreal	1885
5 ,,		16	2½	J. F. Donoghue .	United States	Amsterdam	1891
10 ,,		33	21½	E. Godager . . .	Norway	Stockholm	1889
15 ,,		54	47	F. Dowd [1] . . .	Canada	Montreal	1887
20 ,,	1	14	7⅕	Axel Paulsen [1] . .	Norway	Brooklyn	1884
25 ,,	1	33	28⅘	,, . .	,,	,,	1884
30 ,,	2	11	32	C. G. Tebbutt . .	England	Amsterdam	1888
40 ,,	3	0	7	,, . .	,,	,,	1888
50 ,,	4	13	26	S. J. Montgomery	United States	New York	1882
100 ,,	11	30	20	Louis Tebbutt . .	England	Zwichau	1885

Long jump on skates, 15 ft. 2 in., S. D. See, United States, 1885.
High ,, ,, 3 ft. 1⅜ in., A. T. Camacho, United States, 1885.
One mile with strong wind and flying start, 2 *min.* 12⅖ sec., T. Donoghue, jun. United States, on straight course on Hudson.

[1] Professionals ; the rest are amateurs.

The above are the accepted record times.

INDEX

ABC

ABCOUDE, skating matches at, 240
Accidents on the ice, 35–39
Adams, W. F. (Hon. Sec. of Skating Club), 2, 212
Adamson, Henry, his references to curling in the 'Muses Threnodie,' 332
Ailsa curling-stone, 338, 342, 345
Aiton, Dr., of Dolphinton, curling anecdote of, 375
Albula Hotel, Tiefenkasten, 54
Alexander, Prince of Orange, a patron of the National Skating Association, 263
Alkmaar, 242
Amager, Island of, skate-sailing at, 116
Amateur racing, first record of, 251
Amateur skater, definition of, 261
American Amateur Championships, 270
American tobogganing slides, 388
Americas, or pig-stickers, 391, 399, 401, 402
Amstel, river, 240

AVA

Amsterdam, as a skating centre, 226, 237–241, 280, 281, 293, 317; Bandy at, 435
Amsterdam Skating Association, 304
Anchor or ground ice, 31–33
Anderson, Roderick, of Edinburgh, his curling-stone bag, 347; assistance in photographs, 381
Angleterre Hotel, Davos, 57
Antrobus, Rev. Mr., 91
Apparatus for saving life on the ice, 44
Appliances for clearing ice of snow, 46–49
Aqualate Mere, Staffordshire, 248
Ashton, John, on skating feats, 34
Asphalte as a surface for roller-skating rinks, 193
Atmospheric conditions, influence of, on staying powers of athletes, 201
Aubrey, John, 432
Aune, P. O., 273
Austin, C., 398, 401
'Avalanche' (ice-yacht), 408, 410, 411, 418

AVE

Aven (Swedish champion), 281
Ayres, Bill, 432

BACK screw or hook-and-eye skate, 24
Badges for excellence in speed-skating, 262
Baker Street, miniature Alpine lake in, 14
Balfour, Lord, his curling anecdote, 374
Bandies, 433
Bandy, origin of the word, 429; ancient form of the game in Holland, 430; playing on Bury Fen, 430, 431; match between Willingham and Bluntisham-cum-Earith in 1827, 431; William Leeland, 432; the Bury Fen team, 432; the cat or kit, 433; the bandies, 433; matches in 1868, 433; rules for play adopted in 1882, 434; matches in Holland, 434, 435; at Virginia Water, 435, 436; in and around London, 435; the Bury Fen team defeated by the Londoners, 436; matches in various parts of England, 437; revised rules of play, 437; description of the game, 437–440; skates suited for, 440
Barker, M. M., 436
Barney and Berry skate, he, 59
Barron, Dr., 409
Bastman (Sportsmagasin, Stockholm), 212
Bavarian ice-game resembling curling, 329
Bear Hotel, Grindelwald,

BRA

Beasley's wooden-soled boots, 61
Beau Rivage Hotel, St. Moritz, 54
Bedford, Phil, 432
Beerstraaten, Antony (Dutch painter), 9
Belfast Curling Club, 338
Belgians, King of the, a patron of the N. S. A., 263
Belvedere Hotel, Davos, 57, 391–393
Berg, Arie van den, 234, 235, 279, 280, 286, 291
Berg, Okke van den, 234
Berney (skate-maker), 307
Besoms, 346
Betting, discouragement of, in skating contests in Holland, 230
Birds, speed of flight of, 200
Black (Canadian), 272
'Black Prince,' his anecdote of 'Turkey' Smart, 252
Blackett, H., 436
Blades of skates, 22, 61–64
Blaine's 'Encyclopædia of Rural Sports,' 203, 248
Bland, Joseph, 248
Blatter (Austrian champion), 280
Blenkinsop (five-mile champion in 1823), 251
Bloomenstein, 277
Bluntisham-cum-Earith, 333, 431
Bob Scots (ice-yachts), 412
Bob-sleds, 390, 391, 399, 410
Bodin, 273
Bone runners, 5
Bones, F., 266–268
Boon, W., 287
Boots for skating, 20, 61
Boss, Fritz (ice-rink manager, Grindelwald), 53
Bracket turns, *see* Turns

BRA

Bradford, of Farcet, 250
British Museum collection of bones used for locomotion on ice, 5
Broadbent, P., 396
Brockett Hall Park, 435
Brooms for clearing ice-rinks from snow, 346
Broun, Sir Richard, his 'Memorabilia Curliana Mabenensia,' 336, 337, 370
Brown (champion at Montreal), 271
Brown (Sanquhar Club), his anecdote of the curler's cat, 378
Brown, Richard, 431, 432
Bruinsma, P., 274, 286
Buckhout, Joseph E. (ice-yacht builder), 409
Buckhurst (roller-skater), 12
Bujac, Matthew Julius, his vention for the formation of ice-skating rinks, 15
Bulpett (tobogganer), 401
Buol Hotel, Davos, 57
Buol Toboggan Run, Davos, 394–396
Burlingham, S., 273, 274
Burnock Water curling-stone, 344
Burns, Robert, on curling, 327
Bury Fen, the home of Bandy, 430–432
Bury Fen Bandy Club, 432–436, 439

CAIRNIE, Dr. John, his 'Essay on Curling,' 336; his artificial curling-ponds, 340
Caller, the, in figure-skating, 139

CLA

Cam, the, skating on, 17, 36, 204
Cambridge, 204, 218, 260, 267, 287
Cambridge Museum collection of red-deer bones used for ice-locomotion, 5
Canada, curling in, 338, 345; preference for the Ailsa stone, 345; point game, 353; adoption of the twist in, 364
Canada, skating in, 203, 271, 272, 273, 279
Canada, tobogganing in, 386
Canadian toboggans, 389
Canonmills Curling Club, 335
Carroll, F. D., 284, 289
Carter, 253, 254, 266
Carter, 'Knocker,' 302
Carthage Ice-yacht Club, 408
Caspar Badrutt Hotel, St. Moritz, 54
Castelein, Marten, 234
Cat, or kit, in Bandy, 433
Cave, of Sutton, 249, 250
Championship of Europe, 276, 288
Championship of the Netherlands, 291
Championship of the World, 283, 287, 289, 317
Charles, of Stretham, 251
Chatteris, 250, 251, 432–434, 439
Chicago, 270
Child (tobogganer), 399, 401
Choctaws, 81, 82, 170, 171
Christiania, 276, 280, 281, 307
Christmas, Bill, 432
Chur, hotels at, 54
Clarke, of Yaxley, 251
Clavadel tobogganing course, 399, 400

CLO

Clothing, 20, 54, 58, 244, 301, 416
Club skate, the, 21
Coasters, 390–392, 402
Cohen (tobogganer), 401, 402
Collins, Charles Allston, his essay on Skating, 38
Collison, 266
Colquhoun & Cadman (skate-makers), 22, 24, 269
Columbus skate-fastening, 60
Competitions on roller-skates, 13
Connell (Canadian), 272
Continuous figures, see Loops, &c.
Cook, Rev. Dr., of Bathgate, curling anecdote of, 376
Copenhagen, 280
Cottenham, 432
Counters, *see* Rockers
Cowbit Wash, 267, 275
Craft, F. W., 279
Craft, T., 280
Crampits or foot-irons, 347
Crawfordjohn curling-stone, the, 342, 344
Cresta Toboggan Run, St. Moritz, 396, 401
Cross, Tom, of Ely, 251, 253
Crosscuts, *see* Loops
Crowland, 249, 267
Cryophorus, the, or frost-bearer, 14
Crystal Palace Rink, 194, 433
Crystal Palace Skating Club, 145
Cumberland Lakes, 203
Cupid's bow, the, 122, 133
Curling, 325; its qualities as a game, 326; eulogised by Scottish writers, 327, 328; origin of, 329; embodied in

CUR

an old coat of arms, 331; earliest literary notice of, 332; the most ancient extant specimens of curling-stones, 332; tradition anent James IV., 333; a bishop charged with playing on Sunday, 333; handles affixed to stones, 333; treated in seventeenth-century works and paintings, 334; popularity in Edinburgh, 334; clubs in the eighteenth century, 335; Dr. Cairnie's artificial ice-ponds, 336, 340; the Royal Caledonian Club and its royal patrons, 336; in England, 337; in Ireland, 338; in Canada, 338; iron substituted for stone by the Canadians, 338, 342; in the United States, 339; table of present distribution of clubs and curlers, 339; formation of ponds, 341; stones and handles, 341–346; brooms and besoms, 346; crampits or foot-irons, 347; the tee-ringer, 347; tape-line, counter, and compasses, 348; advantages of club combination, 348; the point game, 349; rules for local medal competition, 350; diagram to be drawn on the ice before playing, 351, 352; the point game in Canada, 353; rink play, 354; general rules, 354–358; discipline of the game, 358; authority, duties, and qualities of the skip, 358–360, 365–369; position of the curler, 360; the swing, 362;

awkward delivery, 363; the twist, 363; diagram of the 'out-turn' and 'in-turn,' 365; the curl, 365; the game in progress, 368–371; skip speech, 368–370; rebutting, 370; cannoning, 370; humorous phases of the game, 371; odd words and phrases, 372, 373; levelling of rank among players, 373; the poacher skip, 374; Lord Balfour's anecdote, 374; anecdote told of the Earl of Eglinton, 374; clerical anecdotes, 375; superstition and the curler's cat, 376; the Lochwinnoch weaver's stony supper, 376; a canny Ayrshire blacksmith, 377; Dannie frozen to the amb, 377; humours of Curlers' Ha', 377; toasts, 378; glossary of terms, 379–381
Curling-stones, ancient specimens of, 332; first given handles, 333; 341–346
Curtis (roller-skater), 12
Curtis, W. B., 270–272
Cyclists, speed of, contrasted with that of skaters and horses, 201

DAKOTA, snow-yachting in, 424, 425
Dale (tobogganer), 400
Davidson, on curling, 335
Davos Platz, 57, 389, 391–393, 399, 400
Davos Tobogganing Run, the, 392
Decalogue for young skaters, 39

Deina, Mr., on the grape-vine, 134
Dekker, B., 286, 306
Delmont (roller-skater), 12
De Vries, Wiebe, 234, 235, 277, 286
Dewsbury, A., of Oxlode, 254, 266, 267
Diagram of skate strokes, 309
Diet, 295
Digby, James Drake, 2, 255, 260
Digby, Newton (Hon. Sec. of National Skating Association), 2, 260
Dissell, Van, 287, 320
Donoghue, James A., 282–284, 287, 289, 294
Donoghue, Joseph F., 203, 206, 233, 255, 262, 280, 281–283, 285–287, 289, 294, 296, 297, 300, 301, 303–305, 307–313, 316, 317, 321
Donoghue, T., 270, 279, 280, 282, 294
Donovan, his feat on the roller-skate, 12
Double Mercury, a, 180
Douglas, Mr., 381
Dove, Rev. J., 260
Dowler, Captain, his patent skate, 21, 63
Dowd, F., 271, 272, 279
Dowse, 271
Drake, John, 249, 250
Drake, William, 249, 251
Dress, 20, 54, 58, 244, 301, 416
Drummond, Samuel, of Carlowrie, curling emblems in his coat of arms, 331
Duddingston Curling Club, 335
Dufferin, Lord, on curling, 326;

DUM
club at his residence, Clandeboye, 358
Dumas, M. and Mme. (stage skaters), 11
Dutch National Skating Association, 270, 277, 282
Dutch N. S. A. Amateur Championship, 277, 286
Dutch Professional Championship race, 233
Dutch roll, the, 223, 305
Dutch style of skating, 305
Dwyer, Bertie, 401

EDEN, J. J., 287, 289, 320
Edwards, Jos., 432
Egar, James, of Thorney, 249
Egar, John, of Thorney, 249, 250
Eglinton, Earl of, curling anecdote respecting, 374
Elliott, R. A., 271
Elstree Reservoir, 267, 268
Ely, 268
Engadine, the, 52–57, 282, 302
England, curling in, 338
English or Fen style of skating, 306
Enkhuizen, 243, 244
Ennis, John, 270
Essex County Toboggan Club, Orange, New Jersey, 388
Evelyn, quoted, 8
Ewbank, L., 204
Explanation of figure-skating terms, 145

FAIR held on the frozen Thames, 17
Fen district, the, 204, 269
FLU
Fen skates, 268, 269, 440
Ferguson, Professor, on a Bavarian ice-game, 329
Few, H., of Sutton, 251, 278
Figure-skater's Pocket Book, Marshall's, 142
Figure-skating, the theory of, 65; elementary chamber practice, 65; position of the body, 66; changing edge, 66; an ordinary three, 66; forward inside edge, 67; stopping suddenly, 69; skating backwards, 69; back inside edge, 70; forward outside edge, 71; treading the circle, 72; forward cross roll, 75; back outside edge, 76–78; back outside cross roll, 79; the Mohawk, from backwards to forwards, and vice versâ, 79, 80; bracket turns, 80, 81; a cross Mohawk, 81; the Choctaw, 81; a cross Choctaw, 81, 82; cross steps, 82; table of the sixteen steps, 83; the four turns and four bracket turns (*see* under); the four Q's and four reverse Q's (*see* under); the four rockers and the four counters (*see* under); loops, crosscuts, and continuous figures (*see* under); grape-vines (*see* under); the Skating Club figures (*see* under); hand-in-hand skating (*see* under)
Fitzstephen's 'Description of London,' quoted, 7
Fjoestad, G. A., 288, 289
Fleet of the Hudson River Ice-Yacht Club, 421, 422
Fluela Pass, the, 403

FOG
Fogg's patent buckle, 25
Forsyth, Sir Douglas, mission of, to Yarkand, 9, 10
Foster-Heddle, Professor, on the stone most suitable for curling, 344
Franklin, 271
Fredericksen, 284, 285
Freeman, Harold, 394, 400–403
Fresh Air Club, New York, 297
Friesland travelling skates, 25
Frost-bite, 416
Frosts, record of phenomenal, 16–18

GAMGEE, Professor, his improvements in ice-rinks, 15, 338
Gildersleeve, Judge, 409
Gittam, John, of Nordelph, 248–250
'Glacianaut,' his skate-sail, 211, 212
Glossary of curling terms, 379–381
Godager, E., 278, 282, 283, 288, 301
Godmanchester, 434
Goodman, Albert, 268, 269
Goodman, Henry, 434
Goodman, J., 434, 435, 436
Goodman, Neville, 239, 255, 260, 267, 269, 270, 275, 278–280, 285, 433
Goodman, N. and A., their work on 'Fen-skating,' 269
Goodman, Dr. Roger, 321
Goodman, R., 436
Gordon, C., 284
Graeme, James, on curling, 335
Graham, George, Bishop of Orkney, charged with curling on the Sabbath, 333
Graham, James, on skating and curling, 335
Grape-vine, the, difficulty of teaching, 129; the chain step, and serpentine line backwards, 130; single, with the right foot in front at starting, 130; practice at turning the toes in and out, 131; with the left foot leading, 133; the double, 133; Cupid's bow, 133; variation of the double, 134; the Philadelphia, 134–136; Philadelphia, spread-eagle, 136; spread-eagle twist, 137; Pennsylvanian, 137; intricacies of, 138
Great International Skating Race at Heerenveen, 230
Great Level of the Fens, the, 204
Green, of March, 20, 251, 253
Grindelwald, as a skating resort, 52; hotels at, 53
Grinnell, Com. Irving, 409, 415, 421, 423
Groningen, 237, 286, 320
Grouth, T., 278, 280
Grunden, Oscar, 275, 276, 284, 288, 289
Grünli Bodeli, 402
Guildhall, bone runners in, 5
Guler, Leonhard, 404
Gurdon, Sir W. Brampton, 260
Guthrie, G. Baillie, 400, 401
Guthrie, William, of Pitforthy, 333

HAARLEM, 208 200 239
Haarlem Meer 238

HAA

Haas, 435
Hagen, Harald, 20, 277–279, 281, 287, 289
Haig, General, 394
Hall, A. C., 436
Hamar, 278, 285, 288
Hamburg, 275, 276, 278, 280, 282, 288, 319
Hampstead Skating Club, 145
Hand-in-hand skating, merits of, 179; the Promenade step, 179; Three Scud, or Single Mercury, 180; Double Mercury, 180–182; Mohawks, 182, 183; the forward rocker, 183–186; Q's, 186, 187; turns, 187
Hanje, Klass, 236, 286, 304, 306, 310, 316, 317
Hanmer, T. F., on the Danish skate-sail, 214–217
Hardman, Gillett, & Co's wooden-soled boots, 61
Harewood, 251
Harms, J. H., 280
Harrison, W., 254
Hawes, Alfred, 253, 254, 268, 287, 297
Hayward, 251
Headley, Robert, 432
Heath, R., on the influences which govern the rigours of winter, 16
Heathcote, J. M., 207–209, 219, 220, 260
Heerenveen, 230, 231, 285, 289, 291, 294, 301, 303, 305, 317
Hemment, 271
Hennig & Co. (skate-makers), 64
Hill, 268
Hill & Son (skate-makers), 22, 24, 64

HOL

Hille, 285
Hockey, *see* Bandy
Hodgson, 432
Hogg, James, on curling, 328
Holden (of the Southport Skating Rink), 16
Holland, its ice-highways, 8; climate, 52; an excursion in, 207; the skater's paradise, 221; configuration of the country, 221; the Frieslanders and the Southerners, 222; swept courses, 223; maps of the water-ways, 224–246; refreshment booths on the ice, 224; interest taken by the people in foreigners, 225; windmills, 225; the wind as a factor in skating, 225; skating poles, 226; warning barriers, 226; village ice-commons, 227; ice fêtes, 228; competitions, 228, 229; indicating machines, 229; young men's and girls' races, 229; prowess of the women, 230; women's races, 230; discouragement of betting, 230; the Great International Race at Heerenveen, 230; a Dutch racecourse, 231, 232; the Professional Championship race, 233; champion short-distance skaters, 234, 235; amateurs, 236; long skating expeditions, 236; from the Hague to Leeuwarden, 236; Reinders's feat, 237; Koopmans's journey, 237; Leeuwarden and Groningen as skating centres, 237; the dead cities of the Zuider Zee, 237; excursions south from Amster-

dam, 237–241; matches at Abcoude, 240; excursions north from Amsterdam, 241–244; ancient costumes and customs of the Markenaars, 243; skating carnivals, 245; the ijsleete, 246; (*see* Racing); Bandy in, 430, 434
Hoorn, 244
Horan, M., 396
Horses, speed of, contrasted with that of cyclists and skaters, 200, 201
Houtman, J. D., 235, 285, 286
Hudson River, 270, 279, 293, 307, 407, 408, 410, 412, 416, 425
Hudson River Ice-yacht Club, 408, 419, 421, 422
Huitema, 274
Huntingdon, 219, 317
Huntingdonshire, 205, 430
Hutchinson, Horace, quoted, 362

Ice, the four kinds met with in England, 31–35; in rinks, 41–57; various states of, 43, 45; action of snow upon, 46, 49; flowers, 55
Ice-rinks, artificially made, 14–16; renewal of the surface, 44; at the Skating Club, 45, 46, 50, 212; how to make open-air, 50–52; at Grindelwald, 52; St. Moritz, 53–56; Davos Platz, 57
Ice-sailing, a peculiarly American sport, 407; in Finland and Holland, 407; formation of the Poughkeepsie Ice-Yacht Club, 407; rivalry between the Hudson and Shrewsbury River clubs, 408; development of the ice-yacht, 408; the 'Icicle,' 408; length and speed of yachts, 408; ice-yacht racing, 408; yacht-owners, 409; Buckhout of Poughkeepsie, ice-yacht builder, 409; Hudson River ice-yachts, 410; model and build of an ice-yacht, 410; the Hudson (three-runner) and Shrewsbury River (four-runner) ice-yachts in competition, 410; Hallock's double-masted rig, 411; Capt. Hipe Relyea's improvements, 412; management of an ice-yacht, 412–415; an ice-yacht at full speed, 414; the most exciting moment on an ice-yacht, 415; drawbacks to the sport, 416; shortness of the season, 416; dress suited for, 416; frostbite, 416; exhilaration of the sport, 416; racing with a railway train, 417; speed attained by the crack ice-yachts, 418; sailing rules and regulations, 419; summary of ice-yacht club races for Challenge Pennant of America, 420; pushing allowed in a regatta under certain conditions, 421; classes of the yachts, 421; fleet of the Hudson River Ice-Yacht Club, 422; laws of ice-navigation, 421–424; sailing faster than the wind, 423; sheets flat aft under all circumstances, 423; beating to windward, 424; beating to lee-

ICE
ward, 424; Snow-yachting, 424; Dr. Wheeler's prairie yacht, 425
Ice-skates, boots suitable for, 20; the heel screw, 20; the Standard, 22; wooden foot-stocks, 22; curved prow, 23; fastenings, 24; back screw or hook and eye, 24; heel-and-sole clips, 24; Fogg's patent buckle, 25; Dutch and English contrasted, 25; how to carry, 26; walking on, 26; treatment after use, 27; putting on, 29; the Mount Charles, 58; the Barney and Berry, 59; the Columbus, 60; combination wooden-soled boot and skate, 61; blades, 22, 61; the Dowler blade, 63, 64; makers, 64; standard type of Fen, 268, 269
Ice-skating, origin of, 4; Swedish account of its development, 6; in England in the twelfth century, 7; in Holland in the sixteenth century, 7; a backwoods incident, 8; references to, by Pepys and Evelyn, 8; pictorially treated by Dutch artists, 9; in India and at Kashgar, 9; Kirke's invention of artificial ice, 14; the miniature Alpine lake in Baker Street, 14; first production of real ice by artificial means, 14; Parker's and Newton's ice-producing processes, 15; Professor Gamgee's improvements of ice-rinks, 15; winters favourable to the exercise, 16–18; its healthfulness as a recreation, 19; clothing for, 20, 58; skates and their fastenings, 21–27, 58–64; advice to beginners, 28–31; mode of teaching at Welney, 28; the four kinds of ice met with in England, 31–35; a skating feat in the beginning of this century, 34; to estimate the strength of ice, 34; what to do when unsound ice gives way, 35; ice accidents, 35–39; the philosophy of falls, 38; rule of the road, 38; collisions, 39; way to stop quickly, 39; the skater's decalogue, 39, 40; ice and the formation of rinks, 41; reason why the English skate well, 42; perfection of ice, 43; apparatus for saving life, 44; renewing the surface of ice-rinks, 44; appliances for the removal of snow from ice, 46–49; the making of open-air ice-rinks, 50–52; Swiss skating resorts, 52–57; the school of skating at St. Moritz, 55; combination of wooden-soled boot and skate, 61; blades of skates, 61–64; figure-skating (*see* under); figure and straight-away skating contrasted, 199; skaters pitted against horses and cyclists, 200, 201; influence of atmospheric conditions on staying powers, 201; unfavourable conditions in which racing is generally undertaken, 202; Holland as a skating ground, 202, 207–209 (and *see* under); in England, Canada, and the

ICE
United States, 203 ; long runs, 204 ; excursions in the home counties, 205–207 ; Whittlesea Mere, 210, 211, 217, 218, 367, 317 ; skate-sailing, 211–216 ; in connection with sport, 218 ; military exercises, 218, 219 ; racing (*see* under) ; style (*see* under)
Ice-yacht Challenge Pennant of America, 409, 419
'Icicle' (ice-yacht), 408–410, 418
Ijssel, the, 240, 241
India, skating in, 9
Indicating-machines for skating contests, 229
International skating matches, 273–290.
International Toboggan Race, the, 396–400
International Toboggan Racing Club, 398
Ireland, curling in, 338

JACKSON, John, 432
Jewson, F., 434, 435, 436
Jorkildsen, O., 288
June, Charles, of Newbury, U.S., 270
Jurrjens, J., 280, 281, 283, 304

KASHGAR, skating at, 9
Kennedy, G. E. B., 436, 437
Kent, A., 286
Kent, H., 287
King Farlow, A., 436
King Farlow, S., 436
Kingma, Benedict, 235, 274, 276–278, 286, 291, 305
Kingma, Marten, 233, 235, 282, 285, 286, 289, 294

LAT
Kingma, Merk, 235, 286
Kingma, Peter, 234
Kingston Rowing Club, 435
Kirke, Henry, his composition for the floor of a skating-rink, 14, 338
Klinkhamer, 435
Klosters tobogganing course, 392, 396, 401–404
Kluyten (a Dutch ice-game), 329
Knattleikr (a Scandinavian ice-game), 329
Koe, De, 320
Koopmans, W., of Bolsward, 237
Kreuger, on the origin of skating, 6
Kulm Hotel, St. Moritz, 54

LADIES' costume, 58
Landahl, 285, 286
Lappe, J., 282
Lardham, 272
Large, John, 432
Large, William, 432
Larousse, on the word 'verglas,' 31 *n*
'Laws of Ice Navigation,' Com. Irving Grinnell's, 415
Laws of racing of the N.S.A. of Great Britain, 256
Leeland, William, 431–433
Leeuwarden, 230, 235–237, 270, 273, 276
Leslie's Cryophorus or frost-bearer, 14
Lindahl, H., 287–289
Lingey Fen, 296
Linsted, 284
Littré, on the word 'verglas, 31

LOC
Lockhart, Elliot, 381
Loman & Co., of Amsterdam, 304
London Skating Club, 212
Long, G., 255
Long Reach, river St. John, 307
Loops, Crosscuts, and Continuous Figures, 117; the learning of loops, 117; continuous loops, 118; form of loops, 118; a turn a loop and a turn, 118; a loop a turn and a loop, 119; stoppages, 119; crosscuts, 120; large and small crosscuts, 120, 121; from the inside edge, 121; development of the counter crosscut, 122; Cupid's bow, 122; pig's ears, 123, 124; inside forward pig's ears, 125; forward outside one-foot spin, 126; inside forward spin, 126; back outside spin, 126; inside back spin, 126; forward two-foot spin, 127; two-foot spin backwards, 127; toe steps, 127; figures from pivot, 128; the spread-eagle, 128
Loveday, J., 281
Loveday, W., 281, 282, 287, 289
Lukmanier Hotel, Chur, 54
Lulu, Fritz, 280
Lundblad, 278

McCormick, C. H., 271, 272
McCormick, Hugh, 279, 284, 287, 300
Macfarlane Museum, Stirling, ancient curling-stones in, 332

MON
Maddison Square Gardens Rink, 13
Maitland-Dougal, Admiral, 353
Manen, von, 435
Manhattan Athletic Club, 285
Manitoba Curling Club, 339, 353
Marble-faced floors for roller-skating rinks, 193
Mare Fen, Hertford, 434
Marken, 243
Marsden, of Sheffield (skate-maker), 22
Marsh, 249
Marshall, W. C., his 'Figure-Skater's Pocket Book,' 142
May, James, of Crowland, 249, 250
Maze Lake, Hertfordshire, 251
Meadows, L., 433
Meadows, W., 433
Mehew, Thomas, 432
Menten, 435
Mepal, 250, 254, 432
Mercury, or three scud, figure, 180–182
Merlin, Joseph, his invention of skates on wheels, 11
Meyer, 435
Middle Level Drainage System, 32
Miller, Professor, his definition of anchor ice, 33
Milwaukee, 271
Minsch, Peter, 396, 397, 400, 401
Minson, W., 435, 436
Mohawks, 79, 80, 96, 182, 183
Monier-Williams, M. F., 108
Monmouth, Duke of, 9
Montgomery, J. S. (Hon. Sec. of American Skating Association), 203, 271
Montreal, skating at, 271, 284;

MON
curling at, 338; tobogganing at, 388
Montreal Toboggan Club, 388
Mosher, H. P., 282, 283, 287
Mount Charles skate-fastening, 58, 60
Moxon, Dr., 255
Mulier, W. J. H., of Haarlem, 236, 434, 435
Murphy, 432, 436
Murphy, H., 436

NANSEN, Frith, 272, 273
National Skating Association of Great Britain, the, inauguration of, 255; its objects, 256; laws of racing, 256; its definition of an amateur, 261; money prizes and badges, 262; royal patrons, 263; its establishment of international contests, 263; duties of, 263; sends Fenmen for the first time to London, 265; negotiates with Dutch authorities for international race, 268, 270; adopts the time test, 275
Needham, W., of March, 251
Netherlands Football and Athletic Union, 434
New Hamburg Ice-yacht Club, 408
New River, the, curling on, 337
New York, 271
Newbury, U.S.A., 270
Newton, William E., system adopted by him for an ice-skating rink, 15
Nightingale (of the Southport Skating-rink), 16

PAU
Nordfvedt, Olaft, 287
Norfolk Broads, 203
Norman, F., 266, 267, 275, 277
Norseng, A., 275, 276, 282–284, 288, 289, 294, 296, 301, 319
North, Christopher, on curling, 327
North Shrewsbury Ice-Yacht Club, 408
Norway, skating in, 272, 273, 287, 302, 307

O'BRIEN, S., 271, 272, 280
Old Bedford River, Welney, 290
Old West River, 204, 430
Oliver, V. L., 436
Olympia Skating-rink, 296
Ontario Curling Clubs, 338
Ostade (Dutch painter), 9
Ostersen, 284
Ouse, the, 205, 206, 219, 434
Oxford Skating Club, 139

PANDER, K., 235, 236, 255, 277, 281–289, 294, 297, 299, 301, 302, 304, 305, 319
Panschin, Alexander von, 21, 280–284, 289, 293
Parker, A. W., his process for making ice fit for skating, 15
Pate, Tam, 325
Pattens, 4
Paulsen, A. (father of Axel Paulsen), 272
Paulsen, Axel, 20, 21, 255, 271–273, 276, 277, 281, 284, 293, 307, 314

PEN

Penn Ponds, Richmond, 129
Pennant, on curling, 335
Pennecuick, Dr., on curling, 327
Pennsylvanian grape-vine, 137, 199
Pepys, quoted, 8
Perkins, 12
Perkins, of Sutton, 249
Petitbled's invention of roller-skate with three copper wheels, 11
Philadelphia grape-vine, 134–136
Philadelphia spread-eagle grape-vine, 136
Phillips, G. D., 270, 271, 272, 279, 298
Pickering, T., 287
Pidgeon, W. R., 108, 115
Pieters, Trijntje, 230
'Pig's ears,' 108, 109, 123–125
'Pigstickers,' or 'Americas,' 401
Pinewood floors for roller-skating, 193
Ples, 435
Plimpton, James L., roller-skate introduced by, 11, 189, 191
Poles for skating, 226
Ponds, formation of, for curling, 340, 341
Porter, Tom, of Southery, 251, 253
Poughkeepsie, 418
Poughkeepsie Ice-yacht Club, 407
Prairie yacht, Dr. Wheeler's, for snow-yachting, 425
Prince's Club rink, 12
Promenade step, the, 179

RAC

Q's, the four, and four reverse Q's, 98; changing the edge on either foot, 98; the serpentine line forward, on one foot, 98–100; the perfect eight on one leg, 100, 101; serpentine line backwards, 101; continuous back eights, 101; varieties in the eight, 102; forward, inside forward, back, and inside back, 103; forward reverse, inside forward reverse, back reverse, and inside back reverse, 104; two joined, 105; simple combination, 105; double turns, 106; the simple three skated to a centre, 107; *see* Skating-Club figures
Quebec, curling at, 338
Queen, the, confers the title of 'Royal' on the Grand Caledonian Curling Club, 336
Quint, Gouda, 397

RACECOURSES in Holland, 231, 279
Racing on ice, in 1814, 249; superiority of the Fenmen, 249; in 1818, 249; in 1820, 249; Gittam of Nordelph, 249; in 1821, 250; James May and Young of Nordelph, 250; in 1823, 251; in 1841, 251; Needham of March, Few of Sutton, and Larmen Register of Southery, 251; in 1854, 251; William (Turkey) Smart of Welney, 251–254 (*see* under); in 1855, 253; in 1861, 253; in 1867, 253;

RAC
in 1868, 253; Stephen Smith of Conington, 253; in 1874–75, 253; in 1878, 253; George (Fish) Smart, 253 (*see* under); A. Dewsbury's accident, 254; the contest at Mepal, 254; in 1879, the hegira of speed-skating, 255; objects of the National Skating Association, 256; its laws, 256–258; heats, 258; the standard of length, 259; definition of an amateur, 261; in 1881, 262; money prizes and badges for excellence in speed-skating, 262; Royal patrons of the National Skating Association, 263; modern racing, 265; the prowess of 'Fish' Smart, 265 (*see* under); Lancashire skaters defeated by the Fenmen at Swavesey, 266; amateur contest on the Welsh Harp Water, Hendon, 266; professional and amateur time over 1½-mile course, 267; events in 1880–81, 267; George Smart's time for the mile, 267; selection of four skaters for an international race in Holland, 268; Lancashire Hill's rise and fall, 268; Fen-racing skates, 269; in the United States, 270; the Ten and Twenty-mile Amateur Championships in America, 270; the Donoghues and G. D. Phillips, 270; in Canada, 271; speed races at Montreal, 271; Paulsen wins the great International Ten-mile match

RAC
at Washington, 271; authenticated amateur times, 272; in Norway, 272; in Holland (*see* under); International contests, 273; the International race at Leeuwarden, 274; events decided beforehand between champions, 274; the time test enforced, 275; establishment of the mile as a test-distance for skating, 276; how Norseng lost the championship of Europe, 276; Mr. Louis Tebbutt's feat, 276; in 1886–87, 277; English amateur and professional championships, 277; Mr. C. G. Tebbutt gains the Dutch Amateur Championship, 277; International races at Slikkerbeer, 278; amateurism in Scandinavia, 278; events across the Atlantic, 279; race courses, 279; in 1887–88, 280; Panschin wins the Austrian championship, 280; James Smart wins the two-mile International race, 280; Mr. C. G. Tebbutt's record for all distances above twenty-five miles, 281; in 1888–89, 281; Welney victors, 281; Panschin, the fastest amateur miler in the world, 282; inauguration of the Swedish Amateur championship, 282; the Norwegians clear the board, 282; in 1889–90, 282; the Dutch train at St. Moritz, 282; K. Pander's success, 283; the United States N.S.A. meeting, 283; the

RAM

first Russian International Amateur race, 284; the International meeting at Stockholm, 284; the third Canadian meeting, 284; in 1890–91, 285; Fenmen sent to St. Moritz, 285; competition for the Dutch championships at Heerenveen, 285, 286; McCormick defeated by Hagen in Norway, 287; the English championship, 287; the first International race in England, 287; J. F. Donoghue becomes Champion of the World, 287; German International races at Hamburg, 288; position of Swedish skaters, 288; the world's representative amateurs, 289; analysis of positions, 289; the Smart family, 290; the Sees, 290; James Smart, 290, 291 (*see* under)

Ramsay, Allan, on curling, 327

Ramsay, Rev. John, on curling, 329, 336, 337

Rance, H., 255

Rawling, John, 432

Raymond's skate, 12

Regent's Park Rink, 50, 212

Register, Larmen, of Southery, 251, 253, 306, 307

Reinders, Reindert, 237

Relyea, Capt. Hipe, 412

Renou, M. (Secretary of French Meteorological Society), on severe winters in France, 17

Rhaetia Hotel, Thusis, 54

Riding as a means of training, 297

Robertson, G., 394, 396, 400

ROL

Rockers, the four, and the four counters, 107; the discoverers of counters, 108; the terms 'progression' and 'direction' discriminated, 108; the pig's ear, 108, 109; 'turns' and 'kicks,' 109; rotation opposed to the curve of progression, 109; kicked turns, 110; opposed curves in counters and brackets, 110, 111; a bastard Q, 111; a kicked bracket, 111; change of edge at the cusp, 111; the rocker without the opposed curve, 112; rockers to be skated fast, 112; counters to be skated slowly, 113; forward and inside forward rockers, 114; back and inside back, 115; inside forward and inside back counters, 116; Q's and reverse Q's, with rockers, counters, or brackets, 116

Rogen, Gr. von, 435

Rogers, 251

Rogers, Archibald, 409

Rohonczy's Columbus skate-fastener, 60

Roller-skates, introduction of, 11; Merlin's, Petitbled's, and Tyers's inventions, 11; Plimpton's patent, 11, 189, 191; the Raymond, 12; speed attained by, 12

Roller-skating, introduction of, 11; Merlin's mishap at Mrs. Cornelly's masquerade, 11; opening of skating halls, 11; improvements in the skates, 11, 12; Donovan's feat at Maddison Square Gardens,

ROO

13; early stages of, 189; contrasted with ice-skating, 190; as a physical exercise, 190; as a preliminary to figure-skating on ice, 190; Mr. J. L. Plimpton's skate, 191; application of ball or roller bearings to wheel axles, 192; difficulty of executing turns, 192; asphalte as a surface for rinks, 193; marble-slab rink-floors, 193; red pinewood floors, 193; the outside edge, 194; the turns, 195; rockers, counters, and brackets, 195; grape-vines, 195; loops, 195, 196; continuous figures, 196; the two-foot spin, 196; a species of grape-vine, 196; pleasures of, 197

Roosevelt, John A., 409

Roothoven, 435

Ross, Andrew (Marchmont Herald), 331

Rotterdam, 240, 241

Rowe, R. W., 287

Royal Caledonian Curling Club, 336, 338, 342, 349, 353, 354, 374, 381

Ruislip Reservoir, 50

Rules of the Skating Club for figure-skating, 146; for local medal Curling competition, 350; general, of curling, 354–358; of play for Bandy, 437

Rusholme Ice Rink, Manchester, 338

Russian International Amateur race, 284

Rydal Water, 203

ST. IVES, 204–206, 434

St. Moritz, skating and tobogganing at, 53, 55, 282, 285, 294, 389, 396, 398, 400, 401, 402

SHR

St. Petersburg Hotel, St. Moritz, 54

Salis, Baron de, 239, 263, 274, 275, 278, 283

Sanford, Col. E. Harrison, 409, 410, 418

Sanquhar Curling Club, 361, 376

Schaaf, von de, 233

Schlittli, or Swiss coasters, 390–392, 402

Schon, 276, 288

Scot, Walter, of Harden, 333

Scotland, lakes of, 203

Scott, A., 271

Scott, Sir Walter, on skating and curling, 328

Scrapers, ice, 48

Seamark, R. T., 287

Searle, James, 432

Sedgwick, Professor, on inclement winters, 17, 18, 431

See, George, 230, 233, 235, 244, 254, 266, 268, 277–281, 285, 286, 290, 294, 296

See, Isaac, 268, 286, 287, 290, 291

See, S. D., 271

See, William ('Gutta Percha'), 252–254, 268, 290, 294

Seven-hole Sluice, Middle Level Drainage System, 32

Sewell, R. P., 436

Sharman, Jonathan, of Holme, 206, 251

Sheltons, the, of Ramsey, 253

Shinney, *see* Bandy

Shovels for snow, 48

Shrewsbury River, 408, 410

Shrewsburys (ice-yachts), 410

SIM
Simpson, E., 287
Single Mercury, the, 180
Skate, etymology of the word, 3; Professor Skeats's derivation, 3, 4; Littré's French equivalent, 4
Skate-makers, 22, 61, 64
Skate-sailing, 211–216
Skate-strokes, diagram of, 309
Skating-Club, the rink, 45, 46, 50, 212; dress adopted by members, 58; skate-blades in use by, 62; Captain Dowler's concave-side blade, 63
Skating-Club figures, 138; number of skaters in a figure, 139; the caller, 139; two methods of skating in combination, 139; strong and weak partners, 141; hints to the beginner, 141; the simultaneous method, 142; the two methods contrasted, 143; coming and going from the centre, 144; explanation of terms, 145; rules, 146; approaching the centre, 146; the calls 'meet' and 'pass,' 146–148; 'off meet' and 'off pass,' 148; 'centre three' and 'off centre three,' 148; 'centre change Q' and 'off centre change Q,' 148; 'centre turn Q,' and 'off centre turn Q,' 148; explanations of illustrative diagrams, 149, 150; 'once' and 'twice' back, 149, 150; calls for varieties and developments of figures beginning with 'once back' and 'forward,' 151–159; calls for sets of Q's, 159–169, 173, 174; Boomerang figures, 164–169; the series of
STA
Mohawks, 169–171, 175, 176; Choctaws, 170–171; rockers, 171–177; counters, 173, 176, 177; brackets, 176; necessity of learning the calls by heart, 177; list of calls for beginner's practice, 178
Skating records, table of, 441
Skeat, Professor, on the word 'skate,' 3–4
Skip, the, authority and duties of, in curling, 358–360, 365–369; specimens of his phrases, 368–370
Slikkerbeer, 277, 278
Smart, Charles, 290
Smart, George ('Fish'), 252–254, 265–268, 270, 273, 274, 275, 277, 278, 280, 290, 291, 306
Smart, James, 230, 233, 234, 235, 244, 262, 265, 268, 277, 278, 280, 281, 285, 286, 289–292, 294, 296, 297, 305, 317
Smart, Jarman, 266, 268, 290
Smart, Robert, 290
Smart, William ('Turkey'), 20, 247, 250–254, 265, 274, 287, 290, 295, 301, 306, 317
Smith, Stephen, of Conington, 253
Smithson, 251
Smulders & Co.'s map of the canals and rivers of Holland, 246
Snow, effect of, upon ice, 46
Snow-shoes, 6
Snow-sweepers, 49
Snow-yachting, 424, 426
Somersham, 432
Southport Ice Rink, 15, 338
'Stamford Mercury,' 2
Standard skate, the, 22

STA

Staplee, Charles, 249
Staplee, John, 249
Steinbok Hotel, Chur, 54
Stewart, A., 271
Stewart, J. H., 271
Stockholm, 284, 288, 294
Strickland, J. D., 285
Strom, L., 273
Style in skating, 303; J. F. Donoghue's stroke marks, 303; Klass Hanje's and C. G. Tebbutt's stroke marks, 304; number of strokes per minute and distance travelled at each stroke, 304; instantaneous photographs, 304; Dutch style, 305; the Dutch roll, 305; the short-distance Friesland skater, 305; English or Fen style, 306; modern racing style, 307; diagram of stroke marks, 308–310; Donoghue's strokes analysed, 310–313; the Fen stroke, 313; use of the arms, 314; Hanje's stroke, 316; 'Turkey' Smart's length of stroke, 317; true length of a stride, 317; speed of striking, 317–320; style best suited for racing, 320, 321
Surbiton Hockey Club, 435, 436
Sutton, 432
Swavesey, 266, 291, 432, 433
Sweden, skating in, 282, 307
Swedish Amateur Championship, 282
Symonds, J. Addington, 396–399

TABLE of present distribution of clubs and curlers, 339

TOB

Tarring, B. B., 435, 436
Tebbutt, Arnold, 204, 269, 277, 435, 436, 437
Tebbutt, C. G., 1, 204, 269, 273–275, 277, 280, 281, 285–287, 314, 315, 317, 434, 435, 436
Tebbutt, C. P., 434, 435
Tebbutt, Jonas, 432
Tebbutt, Louis, 204, 266, 267, 276, 281, 436
Tebbutt, Neville, 435
Tebbutt, Sidney, 204, 268; his map of the Fen district, 269; 434, 435
Tee-ringers, 347
Tennant, 296
Tennyson, quoted, 38
Terms used in figure-skating, 145; in curling, 379–381
Thames, the, frozen over, 16–18
Thames Valley Club, 145, 437
Thaw, effect of, upon ice, 46, 49
Thialf Skating Club, 232
Thomas, T. H., 284
Thompson, of Wimblingdon, 249
Thomson's 'Winter,' quoted, 10
Thorney, 266
Thornhill, Messrs. (skate-makers), 22, 64
Three Scud, or Mercury, figure, 180
Thusis, hotels at, 54
Tiefenkasten, hotels at, 54
Toasts given at the Curlers' Ha', 378
Toboggan, origin of the word, 386
Tobogganning, 385; origin of the word tobogan, 386; early introduction as a sport in

TOM

Canada, 386; in the United States and in Switzerland, 387; American and Swiss slides, 387–389; the Canadian toboggan, 389; bob-sleds, 390, 391, 399; Swiss schlittli or coasters, 390–392; a Tyrolese toboggan, 391; Americas or pig-stickers, 391; at Davos am Platz, 392; the Davos Run, 392; the Buol Run, 394; the Cresta Run at St. Moritz, 396, 401, 402; foundation of the International Toboggan Race, 396; Mr. J. A. Symonds's silver Challenge Cup, 398; establishment of the Grand National Toboggan Race at St. Moritz, 398; Mr. Child's pig-sticker, 399, 401; Mr. S. Whitney's bob-sled, 399; races for Swiss coasters and open races, 399, 400; the Symonds Shield, 400; the International Race at Davos, 400; Grand National at St. Moritz, 401; the poetry of the sport, 402; romantic rides, 403, 404; on the meadows, 404

Tomson, F., 260

Toronto Rink, 326

Torrance, Rev. Mr., of Glencorse, curling anecdote of, 375

Townley, C. W. (Lord-Lieutenant of Cambridgeshire), 256

Training, 293; uncertainty of the English climate inimical to, 293; practice essential, 293; foreign champions, 293; T. Donoghue and his sons, 294; Dutch and English skaters at St. Moritz, 294; thirty days' practice declared indispensable for racing, 294; 'Gutta Percha' See's habit, 294; diet, 295; benefits of rinking, 296; the New York 'Fresh Air Club,' 297; riding as a preliminary, 297; limit of skating powers, 297; starting, 298; turning, 299; the pace, 300; dress, 301; boots, 302; precautions after racing, 302

Transparent or black ice, 31, 32, 35

Trower, of Upwell, 250

Tuque Bleue Toboggan Club, Montreal, 388

Turcomans, introduction of skating to, 9

Turnill, brothers, 205

Turns, the four, and the four bracket turns, 83; forward three, 84–88; the 'once back,' 88; inside forward three, 88; back three, 89; inside back three, 90; forward two turns to a centre, 94; bracket turn, 95; forward outside brackets, 95, 96; inside forward bracket, 96; back outside bracket turn, 97; bracket turn from inside back to outside forward, 97; joining brackets, 97

Tyers's volitos, 11

Tyrol, a primitive form of toboggan in, 391

UNDERBORG, 255, 276, 288, 304

UND
Underborg, A., 287
Underborg, F., 289
Underwood, Messrs. (skate-makers), 22, 64
United States, the, curling in, 339; ice-sailing in, 407–425; skating in, 203, 271; tobogganing in, 387
United States Skating Association, 271, 277, 279, 280, 282, 283
Utrecht, 241

VANDERNEER (Dutch painter), 9
Vandervell, H. E., 108, 122
Veninga, T. B., 234, 277
Verglas, 31, 33, 34
Verner, Karl, 21, 273, 276
Vetsch, 400
Victoria Hotel, Davos, 57, 392
Victoria Rink, Montreal, 271
Vienna, 282
Virginia Water, 191, 432, 435, 436
Virginia Water Bandy team, 436, 439
Volitos, 11
Vollenhoven, 277
Vrowes, 435

WADSLEY, 275
Wadsworth, H., 435, 436
Walcheren, J., 435
Walcheren, V., 435
Wales, Lakes of, 203
Wales, Prince of, a patron of the National Skating Association, 263
Wallis, R. 275, 277, 281
Ward, J., 436
Warren, Maurice, 435
WOO
Washington, 271
Waterson, 381
Watkinson, T., of Upwell, 253
Watt, 402
Webster, B., 286
Welney, skating at, 28, 251–253, 267, 268, 274, 281, 290
Welsh Harp Reservoir, Hendon, 46, 202, 266
Welsh main, a, 258
Westmoreland, Lakes of, 203
Westra, R., 235
Wheeler, Dr. H. M., of Grand Forks, Dakota, 424
Whelpley, J. A., 272, 307
White, opaque, or snow ice, 31, 32
Whitney, S., 399, 401
Whittlesea Mere, 18, 210, 211, 217, 218, 267, 317
Wickers, J. van B., 239, 275
Wilbraham, 402
Wild-fowling on Whittlesea Mere, 217, 218
Wiles, 253
William IV., his patronage of curling, 337
Williams's snow-scrapers, 48
Willingham bandy team, 431, 432
Wimbledon Skating Club, 145
Winchester Bandy Club, 437
Wind as a factor in skating, 225, 226
Windermere, Lake, 203
Winters, inclement, 16–18
Wollaston, W. H. (secretary of Royal Society), on evaporation as an ice-producing agent, 14
Women's races, 230
Woodward's vulcanised india-rubber wheels, 11

WOO
Woodward, his wager, 248
Wormley, 50

Y, the, 207, 241, 243
Young, J., of Nordelph, 249, 250
Youngs, of Mepal, 249

ZUI
ZAAN River, the, 241
Zaandam, 241
Zee, Renke van der, 234, 274, 276
Zijlstra, W., 234
Zuider Zee, 236, 237, 241, 243, 244

PRINTED BY
SPOTTISWOODE AND CO., NEW-STREET SQUARE
LONDON

00097506

97506
God
796.91
Heal Ska
Heath Cote J. M.
Skating 1892

(HJ)

Digitized with financial assistance from
Hermès India
a project facilitated by the Rotary Club of Bombay
on 10 August, 2018